



SpeechLine Digital Wireless

System Documentation

Sennheiser electronic GmbH & Co. KG

SENNHEISER

Am Labor 1, 30900 Wedemark, Germany, www.sennheiser.com
SpeechLine Digital Wireless - v3.3



SYSTEM INFORMATION

SpeechLine Digital Wireless: System Information

For more information about the individual **products** in the **SpeechLine Digital Wireless** series, see „The Products of the SpeechLine Digital Wireless Series“.

For information about the available accessories, see „Accessories“.

For information about **planning** a complete **SpeechLine Digital Wireless system**, see „SpeechLine Digital Wireless: System planning“.

You can find **instruction manuals** for all products in the **SpeechLine Digital Wireless** series under „SpeechLine Digital Wireless: Instruction manual“.



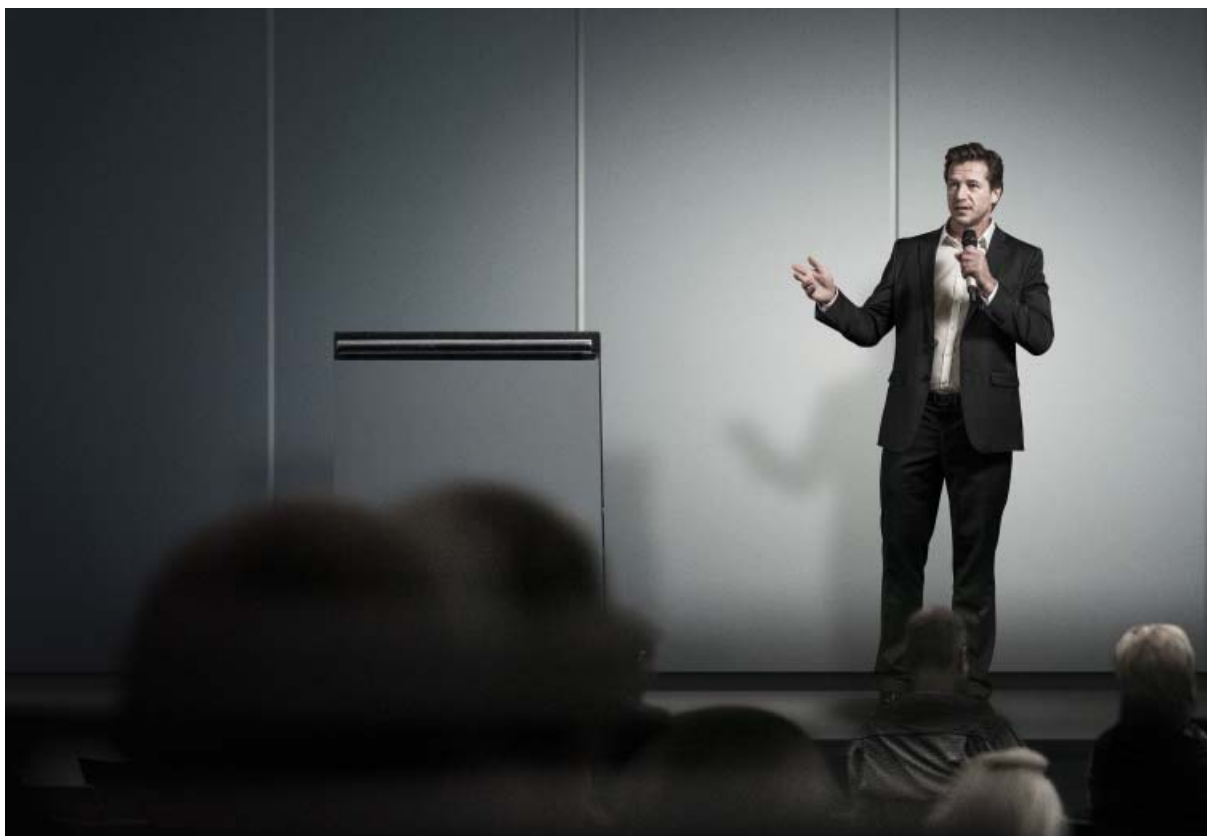
SpeechLine Digital Wireless is the first digital wireless microphone system designed specifically for the spoken word. SpeechLine Digital Wireless is a future-proof solution that's easy to set up, use and manage and that lets the presenter concentrate on their words, not on the technology.



SpeechLine Digital Wireless comprises mobile transmitters (handheld or bodypack) tailored for speech applications, speech optimized condenser microphones (a microphone capsule for the handheld transmitter, a clip-on or headset microphone for the bodypack transmitter) and a rack receiver. The transmitters are powered by rechargeable lithium-ion accupacks with a battery life of more than 15 hours. The accupacks can be recharged with the charger or via USB. SpeechLine Digital Wireless has an automatic frequency management feature that automatically searches for free frequencies on site, thus eliminating the need for time-consuming frequency planning in advance. In addition, the automatic interference management function always ensures a stable wireless connection, and thus provides maximum transmission reliability. The automatic microphone sensitivity adjustment makes the setup even more convenient since there is no need for manual level adjustment. What is more, network integration enables SpeechLine Digital Wireless to be remote controlled and monitored using a media control system (e.g. AMX, Crestron) or the browser-based Sennheiser Control Cockpit software.



Focus on the spoken word



The spoken word is and remains the most personal and powerful instrument of communication we know. It allows us to convince people, to impart knowledge and to voice opinions, thoughts and views as well as emotions. That is why it is so important that none of the content is lost when audio devices such as wireless microphones and the associated receivers are used.



SpeechLine Digital Wireless – the professional solution for speakers, lecturers and presenters



The best wireless microphones and receivers are those which the speaker does not need to think about because they are ready for immediate use, automatically establish the most reliable radio link and provide maximum transmission reliability in every application and all day long. The microphones and the receiver of the SpeechLine Digital Wireless series are designed for optimum speech intelligibility, offer maximum security thanks to encrypted transmission, and provide for seamless integration into an existing conference system, a media control system or a telephone system. The unobtrusive design blends in perfectly with your conference or training room, the auditorium or the presentation stage.



Typical applications

Excellent speech intelligibility, easy handling and convenient control are to the fore at all times, regardless of whether SpeechLine Digital Wireless is used in presentations, meetings or telephone conferences.

Presentations



In the case of a presentation held before a large audience, such as in an auditorium or a large conference room, it is essential that every word can be understood. If active speakers walk around during the presentation or turn away from the audience, they are completely intelligible at all times thanks to SpeechLine Digital Wireless.



Meetings



Good speech intelligibility and easy handling of the microphone system are important requirements for professional meetings. The larger the conference or training room, the more helpful is an audio system which enhances speech intelligibility. In large conference rooms in particular, a speaker seated at one end is difficult to understand at the other end. When the speaker turns in different directions, for example in order to address individual participants, he is difficult to understand in the other direction in each case. SpeechLine Digital Wireless does not restrict the freedom of movement of active speakers.



Teleconferences



In modern office life, teleconferences are becoming more and more important for the cooperation of international teams. As a telephone alone can only offer inadequate speech transmission for all participants in the room, the SpeechLine Digital Wireless system can easily be connected to an existing teleconference unit such as the Sennheiser TeamConnect system. This processes the audio signals and establishes the connection to the remote participants.



What are the features of SpeechLine Digital Wireless?

Automatic frequency management

SpeechLine Digital Wireless finds free transmission frequencies reliably and fully automatically. Manual intervention is not necessary in the search for a free frequency. This means that your wireless microphone and the receiver are ready for use within an extremely short time: connect them, switch them on – and that's all.

The transmitter and the receiver are pre-paired at the factory and immediately work together. If necessary, this pairing can be changed at any time, for example in order to switch from a clip-on microphone to a handheld transmitter. It is also possible to use several transmitters, such as when each lecturer at a university uses their own microphone.

Automatic microphone sensitivity adjustment

It is not necessary to manually adapt the input sensitivity to the microphone used, and the audio level is automatically adjusted for different speakers. In addition, different sound profiles are defined for male and female voices. In this way, the high-quality microphones of the SpeechLine Digital Wireless series can unleash their full potential without distortion.

Automatic level management

The level of the audio signal is automatically optimally adjusted so that the speaker's voice can be heard loud and clear. If necessary, the receiver's output level can be manually adapted to the input of the mixing console or amplifier.

Automatic interference management

The system immediately reacts to interfering signals such as those coming from DECT telephones by automatically changing the frequency. This prevents interference and audio dropouts and ensures an uninterrupted connection. The automatic frequency change is not noticed by the user of the microphone or by the audience. If several radio links are active for different speakers at the same time, the respective frequencies are automatically selected so that they cannot interfere with each other. The frequencies are immediately adapted to newly added radio links without interfering with the ongoing transmission or even interrupting it.

Future-proof, license-free audio transmission

SpeechLine Digital Wireless operates in the future-proof 1.9 GHz frequency band. Transmission in this band is not affected by regulatory changes of the digital dividend or by the auctioning of frequencies. In addition, the frequencies in this band can be used without a license. With SpeechLine Digital Wireless, you don't have to fear changes to the frequency band used which could possibly mean having to buy new audio equipment. The acquisition of a SpeechLine Digital Wireless system is a future-proof investment.

To allow optimum use of the 1.9 GHz frequency band, SpeechLine Digital Wireless offers two operating modes: For up to 20* links used in parallel,



the **Adaptive Power Mode** ensures extremely easy startup and a reliable maximum range. The **Multi-Room Mode** allows you to adjust the transmission power to allow for a considerably larger number of links. These adjustment options make SpeechLine Digital Wireless the optimum solution for a great variety of projects with widely differing installation sizes at the same location.

* depending on the locally approved variant

Tap-proof audio transmission

The encrypted, tap-proof transmission of information is especially important in the corporate environment. This is why we decided to use 256-bit AES encryption when developing the SpeechLine Digital Wireless series. Here the security of wireless transmission is ensured by the generation of a new key each time a new connection is made between transmitter and receiver. At every meeting and every conference, this guarantees that only the receiver paired with the transmitter is able to decode the audio signal. Encryption cannot be deactivated – making SpeechLine Digital Wireless secure at all times.

Extremely long battery life

It is not necessary to replace or recharge the accupack during operation. The battery life is about 15 hours – enough for even a very long conference day. Intelligent energy management using adaptive transmission power maximizes the battery life.

To charge the accupacks, it is not necessary to remove them from the transmitters. They can be recharged using the optional CHG 2 charger for handheld and pocket transmitters or directly via the supplied USB charging cable.

Easy control using the Sennheiser Control Cockpit software

Sennheiser Control Cockpit is the central software for easy handling, control and maintenance of the entire SpeechLine Digital Wireless system. The easy-to-use Sennheiser Control Cockpit software provides a global overview of all network enabled SpeechLine Digital Wireless devices at all times. It shows all status information at a glance and makes setting adjustments for one or multiple devices at the same time very easy. The room overview connects the locations of all components to their respective status information, so the user always knows the location and status of a specific device. The Sennheiser Control Cockpit is accessible everywhere in the intranet via a web browser across all platforms. As a result, the software allows you to manage even huge setups with hundreds of devices with minimal effort.



The Products of the SpeechLine Digital Wireless Series

For information about the available accessories, see „Accessories“.

The SL Rack Receiver DW receiver



The 9.5" rack receiver (SL Rack Receiver DW) is the core of the SpeechLine Digital Wireless system. Thanks to the bi-directional communication between the rack receiver and the transmitter, all transmitter settings can be adjusted on the receiver. The receiver's automatic frequency management eliminates the need for manual frequency setting and the automatic interference management ensures maximum transmission reliability. The user-friendly pairing function ensures a reliable connection between the transmitter and the receiver. Network integration enables the receiver to be remote controlled and monitored using a media control system (e.g. AMX, Crestron) or the Sennheiser Control Cockpit software. The antennas can either be mounted to the rear of the receiver or to the front of a rack. Antenna cables of different lengths also allow mounting the antennas remotely from the receiver. The antenna cables are available as accessories.

For information about installation and operation, see the instruction manual: „SL Rack Receiver DW“



The handheld transmitter



The handheld transmitter (SL Handheld DW) is ideal when several persons are speaking at the same time, such as in interviews or when queries come from the audience. You can replace the microphone capsule if necessary. The handheld transmitter is supplied with the high-quality MME 865-1 microphone capsule. The MME 865-1 has excellent presence and high feedback rejection and is specially designed for speech applications.

Thanks to its easy handling, the handheld transmitter is available to the speaker for immediate use, and no further instruction is necessary. The functions of the handheld transmitter have been reduced to a minimum to allow stress-free speaking during the presentation and to ensure that the speaker is not distracted by unnecessary operating options.

For information about installation and operation, see the instruction manual: „The SL Handheld DW“



The bodypack transmitter



The compact, robust bodypack transmitter (SL Bodypack DW) is compatible with all Sennheiser headset and clip-on microphones (e.g. SL Headmic 1 or MKE 1). Thanks to the bi-directional communication between the transmitter and the receiver, no settings need to be adjusted on the transmitter. The transmitter's LC display indicates the link name, the battery status and the reception quality. The functions of the bodypack transmitter have been reduced to a minimum to allow stress-free speaking during the presentation and to ensure that the speaker is not distracted by unnecessary operating options. With the easy-to-access mute switch, the transmitter can be muted if necessary.

For information about installation and operation, see the instruction manual: „The SL Bodypack DW“



The wireless SL Tablestand 133-S DW



The wireless SL Tablestand 133-S DW is designed for your speech. It is compatible with all Sennheiser XLR-3 goose neck microphones, making it ideal for podium discussions, speeches and presentations.

Because it is completely cable free, the SL Tablestand 133-S DW is extremely versatile and suited for a wide range of applications.

The SL Tablestand 133-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Tablestand 133-S DW is delivered with a rechargeable battery that lasts up to 10 hours.

The Sennheiser Control Cockpit software can be used to monitor and control the wireless table stand remotely.

For information about installation and operation, see the instruction manual: „The SL Tablestand 133-S DW“



The wireless SL Tablestand 153-S DW



The wireless SL Tablestand 153-S DW is designed for your speech. It is equipped with an XLR-5 socket to provide a hardwired connection to the MEG 14-40-L-II B goose neck microphone.

Because it is completely wireless, the SL Tablestand 153-DW is the perfect solution for ad hoc press conferences or panel discussions in any environment.

The SL Tablestand 153-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Tablestand 153-S DW is equipped with dedicated charging status LEDs to clearly show the battery life.

The Sennheiser Control Cockpit software can be used to monitor and control the SL Tablestand 153-S DW remotely.

For information about installation and operation, see the instruction manual: „The SL Tablestand 153-S DW“



The wireless SL Boundary 114-S DW



The wireless SL Boundary 114-S DW boundary microphone is designed for your speech.

Because it is completely cable free, the SL Boundary 114-S DW is extremely versatile and suited for a wide range of applications.

The SL Boundary 114-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Boundary 114-S DW is delivered with a rechargeable battery that lasts up to 10 hours.

The Sennheiser Control Cockpit software can be used to monitor and control the wireless boundary microphone remotely.

For information about installation and operation, see the instruction manual: „The SL Boundary 114-S DW“



The CHG 2 charger



The CHG 2 charger allows you to simultaneously charge up to two transmitters of the SpeechLine Digital Wireless series. A bi-color LED at each charging slot provides information on the current charge status. The charger has universal charging slots for charging both handheld and bodypack transmitters.

For information about installation and operation, see the instruction manual: „The CHG 2 charger“



The CHG 4N charger



The CHG 4N is a network-compatible charger with four separate charging slots. These ports can be used for the SL Bodypack DW and the SL Hand-held DW. The four LEDs on each charging slot indicate the current charging status. The versatile network interface is compatible with IPv4 and IPv6 for seamless integration. The Sennheiser Control Cockpit software can be used to monitor and remotely control the settings and status messages.

For information about installation and operation, see the instruction manual: „The CHG 4N charger“



The CHG 2W charging base



The CHG 2W is a wireless charging base that provides convenient wireless charging.

The CHG 2W charging base is compatible with the SL Tablestand 133-S DW, the SL Tablestand 153-S DW and the SL Boundary 114-S DW.

For information about installation and operation, see the instruction manual: „The CHG 2W charging base“



Accessories

Various accessory parts are available for the SpeechLine Digital Wireless series.

The clip-on and headset microphones



The MKE 1 clip-on microphone is attached to clothing by means of a microphone clip or with adhesive tape, the SL Headmic 1 headset microphone is a head-worn microphone with an adjustable frame that wraps around the neck. The unobtrusive design of the microphones lets the audience focus on the speaker. The microphones are connected to the bodypack transmitter and thus offer the speaker complete freedom of movement.

For information about installation and operation, see the instruction manual: „The SL Headmic 1 headset microphone“ and „The MKE 1 clip-on microphone“



The AWM 2 antenna wall mount



With the AWM 2 antenna wall mount, the antennas can be remote mounted – optimally positioned and nearly invisible – from the receiver (e.g. when the receiver has to be installed invisibly or when the receiver position is not the best antenna position for optimum reception). The AWM 2 can be easily mounted on a microphone stand or permanently installed on a wall.

For information about installation and operation, see the instruction manual: „The AWM 2 antenna wall mount“



The AWM 4 antenna wall mount

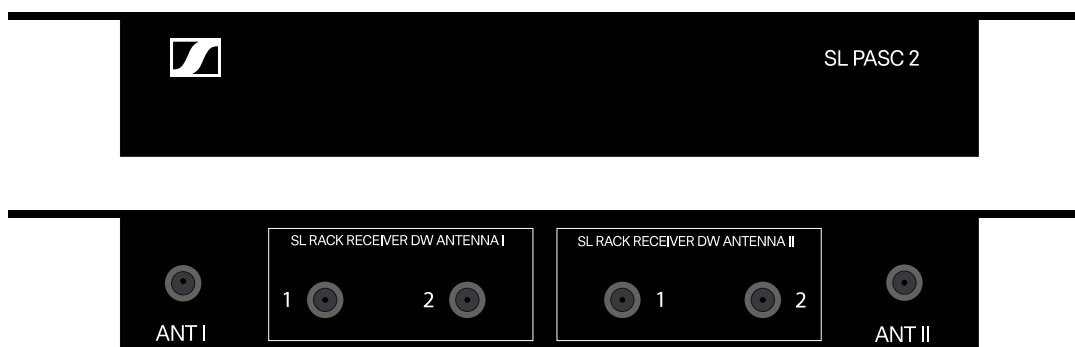


With the AWM 4 antenna wall mount, the antennas can be remote mounted – optimally positioned and nearly invisible – from the receivers (e.g. when the receivers have to be installed invisibly or when the receiver position is not the best antenna position for optimum reception). The AWM 4 can be easily mounted on a microphone stand or permanently installed on a wall.

For information about installation and operation, see the instruction manual: „The AWM 4 antenna wall mount“



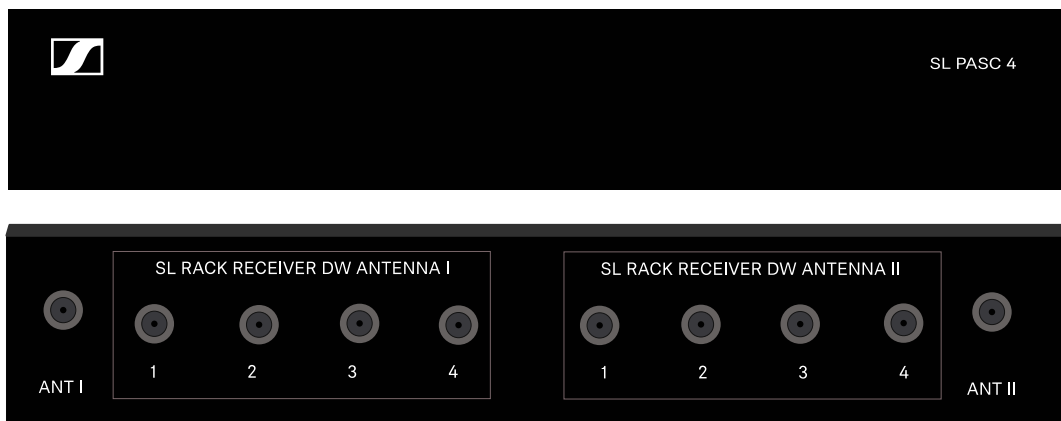
The SL PASC 2 passive antenna splitter



For information about installation and operation, see the instruction manual: „The SL PASC 2 passive antenna splitter“



The SL PASC 4 passive antenna splitter



For information about installation and operation, see the instruction manual: „The SL PASC 4 passive antenna splitter“

Antenna cables

- **CL 5**, R-SMA antenna cable for AWM 2, 5 m, article no. 505976
- **CL 10**, R-SMA antenna cable for AWM 2, 10 m, article no. 506263
- **CL 1 PP**, R-SMA antenna cable for AWM 4, 1 m, article no. 507425
- **CL 5 PP**, R-SMA antenna cable for AWM 4, 5 m, article no. 507426
- **CL 10 PP**, R-SMA antenna cable for AWM 4, 10 m, article no. 507427



SYSTEM PLANNING

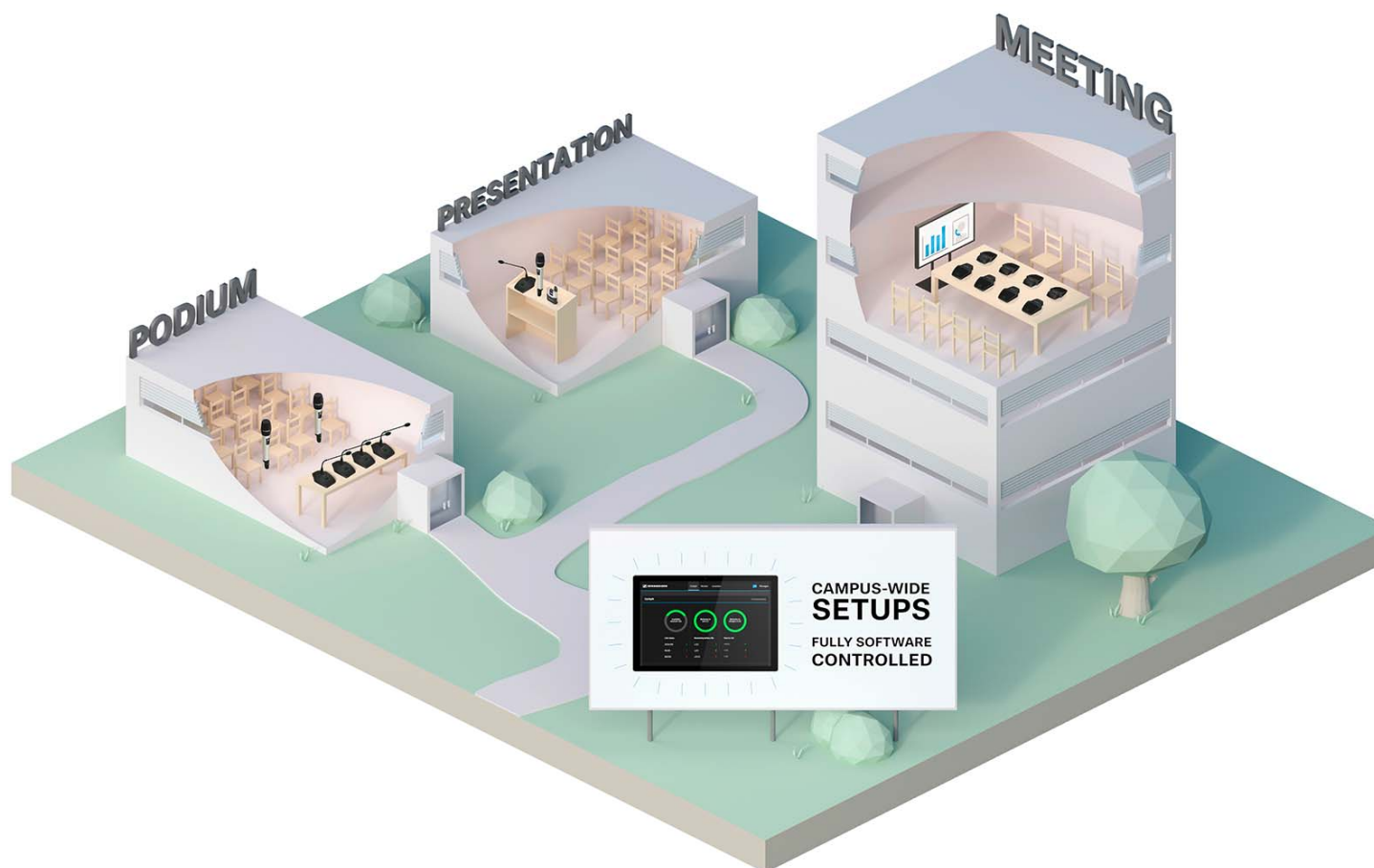
SpeechLine Digital Wireless: System planning

This section of the documentation contains information to help you with system planning:

Planning Preparation: important information about country-specific frequency variants, correct use of transmission power and recommendations for space usage. -> „Planning“

Using Antennas: important information that you need to take into account when installing and using antennas. -> „Recommendations on antenna mounting“

Multi-Room Mode: important information if you intend to use SpeechLine Digital Wireless in multiple rooms within one building. -> „Multi-room mode“



When planning the installation of a wireless audio system, there are some aspects to be considered such as the number and size of the rooms to be equipped or the number of the wireless microphone links you plan to install.

These aspects are crucial for any project regardless of size. In this part of the documentation, we would like to offer some advice on how to proceed when planning a SpeechLine Digital Wireless installation.

Planning Tool

To make planning even easier, we offer a planning tool available on the SpeechLine Digital Wireless product page at www.sennheiser.com/speechline-dw.

SpeechLine Digital Wireless product page



Planning

At the start of planning, the following aspects are to be considered.

Country-Specific Variants

Check which country variant of SpeechLine Digital Wireless is suitable for your location. The following eight country variants are available.

The country variant to be used determines the maximum number of links per range which can be used in the 1.9 GHz frequency band.

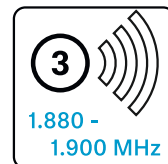
-3 EU Variant:



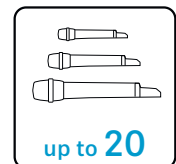
Main countries
and regions



Power supply



Frequency range



Wireless links
per reception range

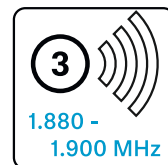
-3 UK Variant:



Main countries
and regions



Power supply



Frequency range

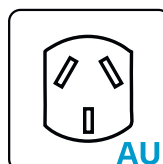


Wireless links
per reception range

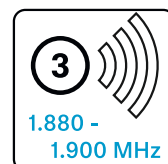
-3 AU Variant:



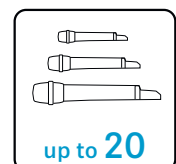
Main countries
and regions



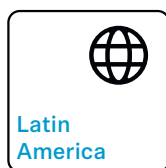
Power supply



Frequency range



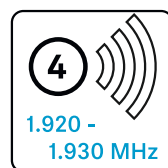
Wireless links
per reception range

**-4 EU Variant:**

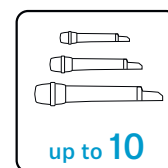
Main countries
and regions



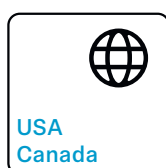
Power supply



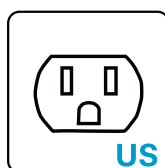
Frequency range



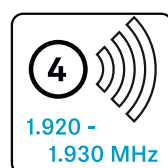
Wireless links
per reception range

-4 US Variant:

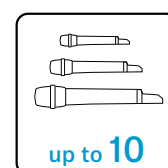
Main countries
and regions



Power supply



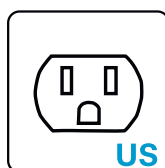
Frequency range



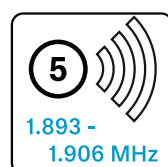
Wireless links
per reception range

-5 US Variant:

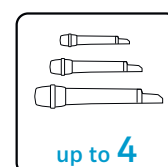
Main countries
and regions



Power supply



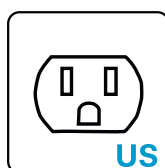
Frequency range



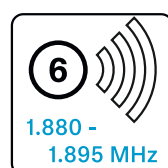
Wireless links
per reception range

-6 US Variant:

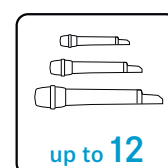
Main countries
and regions



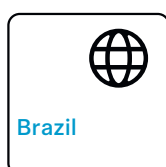
Power supply



Frequency range



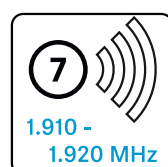
Wireless links
per reception range

-7 EU Variant:

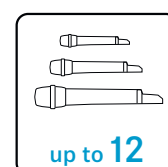
Main countries
and regions



Power supply



Frequency range



Wireless links
per reception range



Number and size of the rooms

- ▷ Determine the number of rooms needed for the installation.
- ▷ Determine how each individual room is to be equipped and used.
- ▷ Determine the audio equipment for each room, i.e. the desired number of SpeechLine Digital Wireless links.
- ▷ Check if there are other devices (e.g. DECT devices) using the 1.9 GHz frequency band.
- ▷ Double-check that the number of 1.9 GHz devices used on-site does not exceed the available spectrum (see „Shared use of the 1.9 GHz frequency band“).



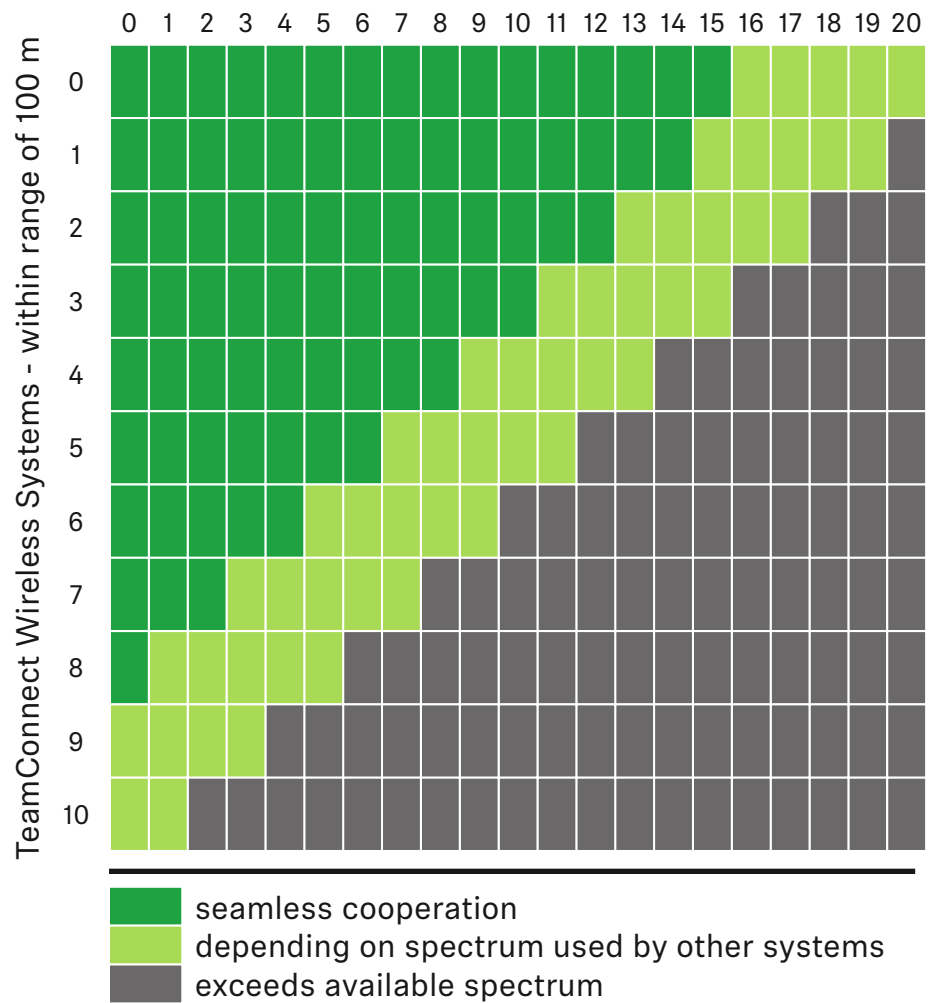
Shared use of the 1.9 GHZ frequency band

When SpeechLine Digital Wireless is used in combination with other devices using the 1.9 GHz frequency band (e.g. Sennheiser TeamConnect Wireless or DECT telephones), the maximum number of SpeechLine Digital Wireless links depends on the number of other devices used.

The following charts indicate the possible combinations of systems depending on country-specific conditions (see also „Country-Specific Variants“).

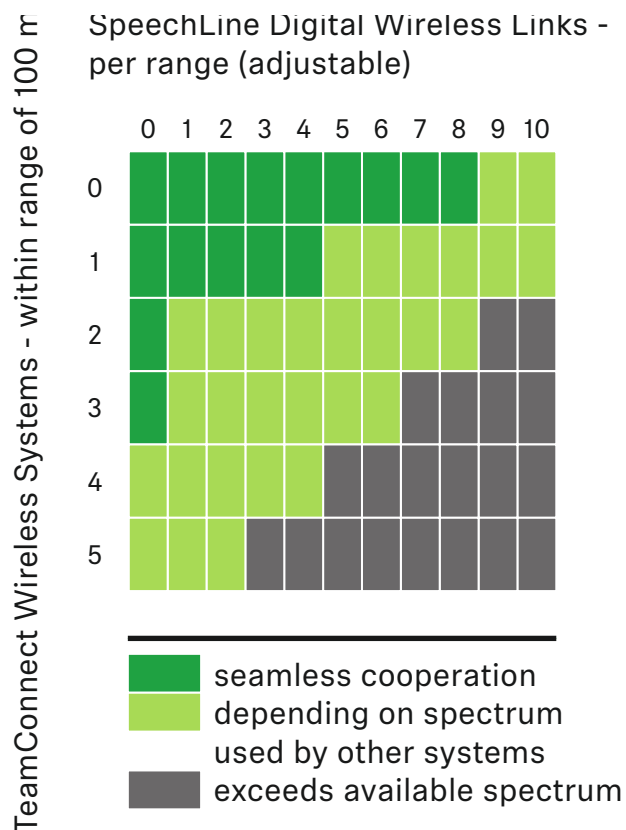
Europe, Indonesia, India, UK, Hong Kong, Singapore, Malaysia, Australia

SpeechLine Digital Wireless Links - per range (adjustable)

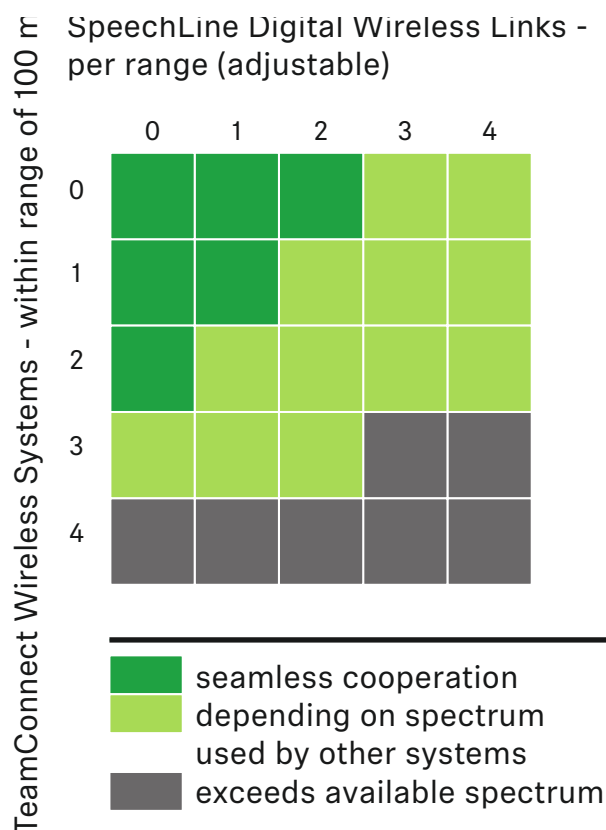




USA, Canada, Latin America, Brazil, Taiwan



Japan





Analysis of the environmental conditions

When planning the installation of a SpeechLine Digital Wireless system, you should also carefully analyze the environmental conditions. Are there any other 1.9 GHz devices (e.g. DECT telephones or DECT access points) already installed?

Observe the following aspects when planning an installation

- Identify the locations of DECT access points (e.g. for DECT telephone systems). Also observe the information provided under „Shared use of the 1.9 GHz frequency band“.
- Determine the type of installation, i.e. where and how the microphone receivers are to be installed.
- Determine whether the antennas are to be mounted remotely from the receivers. When remote mounting the antennas, also take into account possible losses due to long cable runs. Also see „Recommendations on antenna mounting“.
- When installing remote antennas, observe a minimum distance of 3 m to the next DECT access point.
- To make network control very simple, we recommend using a network switch to connect the receivers in the network.



Recommendations on antenna mounting

There are different factors to consider when mounting antennas. This chapter provides instructions and recommendations that you should follow when mounting antennas.

Antenna setup and planning for SpeechLine Digital Wireless

When planning the installation of SpeechLine Digital Wireless devices for each room, observe the following guidelines.

- ▷ Mount all SpeechLine Digital Wireless receivers together in one rack.
- ▷ Make sure to have a direct line of sight between the transmitters and the receiving antennas.
- ▷ Depending on the room characteristics there are several options how to install the receiving antennas. We recommend the following options in this order:
 - **Option 1:** remotely mounted using the AWM 2 for one receiver or the AWM 4 for two receivers. >> „Option 1: Connecting the AWM 2 or AWM 4 antenna wall mount directly to the receiver(s)“
 - **Option 2:** remotely mounted using the AWM 2 or AWM 4 and multiple receivers combined using an antenna splitter (passive splitters SL PASC 2 or SL PASC 4). >> „Option 2: Combining multiple links to one AWM 2/AWM 4“
 - **Option 3:** mounted in a rack (front). >> „Option 3: Rack mounting - front“
 - **Option 4:** mounted in a rack (rear). >> „Option 4: Rack mounting - rear“
- ▷ When mounting antennas remotely, observe the minimum distance to possibly existing DECT access points and also take into account the cable lengths.
- ▷ Always switch all receivers on and off with a common power supply (e.g. a multi-outlet power strip with a central on/off switch) in order to achieve the best performance of a system.



You can find detailed information about the four antenna mounting options under „Antenna mounting options“.



Antenna mounting options

There are different options for remote mounting the antennas. We recommend the following four options in the specified order.

>> „Option 1: Connecting the AWM 2 or AWM 4 antenna wall mount directly to the receiver(s)“

>> „Option 2: Combining multiple links to one AWM 2/AWM 4“

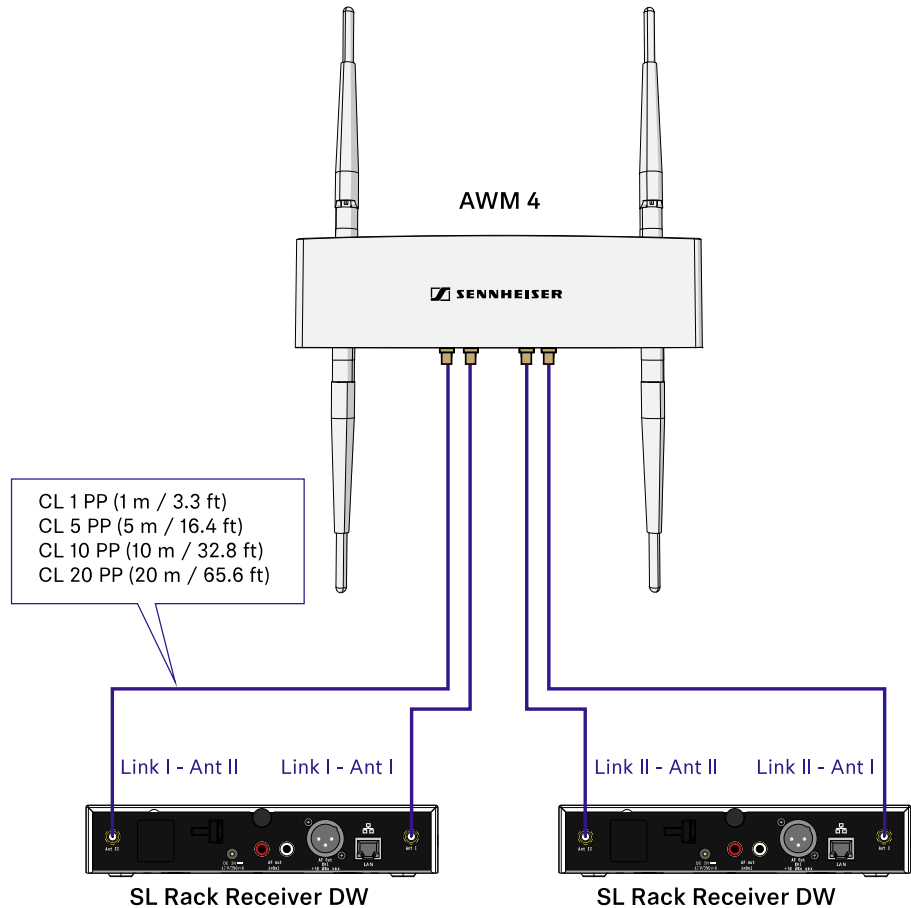
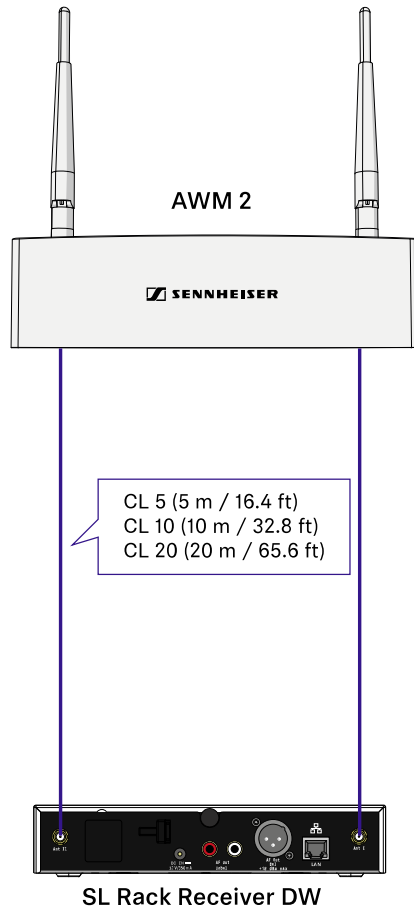
>> „Option 3: Rack mounting - front“

>> „Option 4: Rack mounting - rear“



Option 1: Connecting the AWM 2 or AWM 4 antenna wall mount directly to the receiver(s)

You can connect one receiver directly to one AWM 2 antenna wall mount or you can connect two receivers directly to one AWM 4 antenna wall mount.



- For the **AWM 2**, you can use Sennheiser extension cables **CL 5/10/20**.
- For the **AWM 4**, you can use Sennheiser extension cables **CL 1/5/10/20 PP**.

Observe the following information when using extension cables:

Signal loss due to extension cables

In this scenario, using extension cables for remote antenna mounting results in a loss of transmission power, depending on the cable length.

You can compensate this signal loss by configuring the transmission power of the receiver accordingly.

- Observe the following minimum transmission power settings (SL Rack Receiver DW: **System Settings menu -> RF Power**) for the respective cable lengths:
 - Cable length of **5 m** -> at least **level 1**
 - Cable length of **10 m** -> selected level **+1**, at least **level 2**
 - Cable length of **20 m** -> selected level **+1**, at least **level 3**
 - Cable length of **25 m** and longer -> selected level **+2**, at least **level 4**



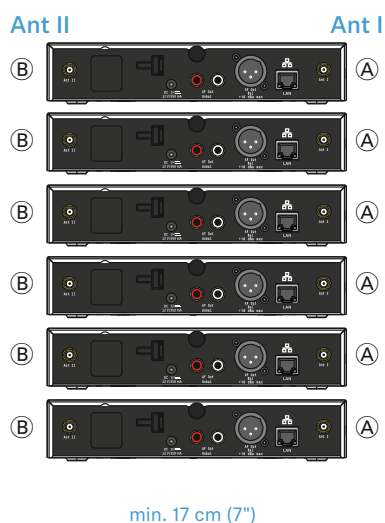
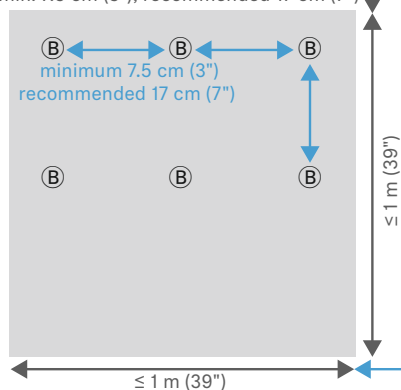
Remote antenna distances and line of sight

If you are using multiple antenna wall mounts (AWM 2/AWM 4) in one room or if individual installation and mounting of the antennas is desired, please observe the following aspects:

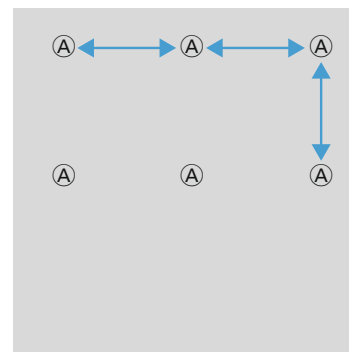
- Position all antennas as close as possible to each other.
- Make sure that the distances between all antennas are all equal and the same as on the back of the receiver or on the AWM 2 antenna wall mount.
- If possible, group the antennas as follows:
 - All **A** antennas from the receivers' **ANT I** sockets in one group according to the aforementioned requirements
 - All **B** antennas from the receivers' **ANT II** sockets in one group according to the aforementioned requirements

All antennas **B** from **Ant II** sockets of all SL Rack Receiver DW units

Distance to reflecting surface / obstacle:
min. 7.5 cm (3"), recommended 17 cm (7")

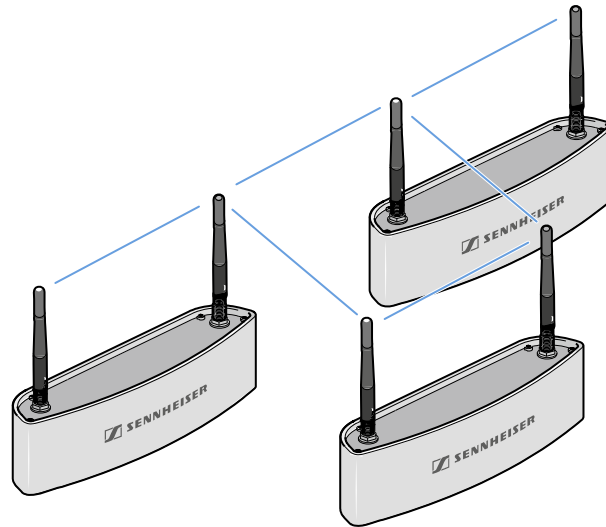


All antennas **A** from **Ant I** sockets of all SL Rack Receiver DW units

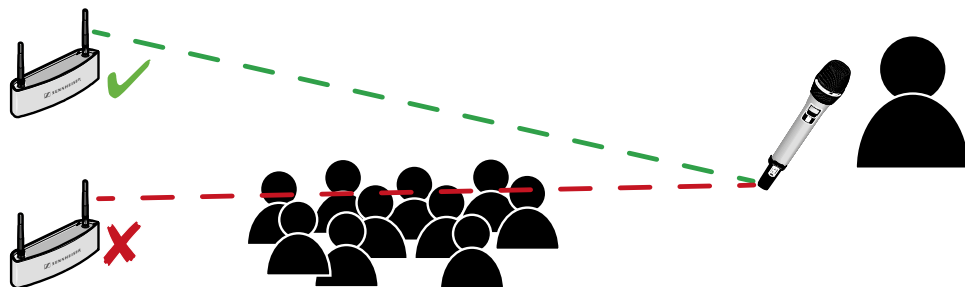




- ▷ When using multiple AWM 2/AWM 4 antenna wall mounts, make sure that the distances between all antennas are equal:



- ▷ If possible, position the antennas so that there is a direct line of sight (without obstacles) between the transmitters and the antennas.



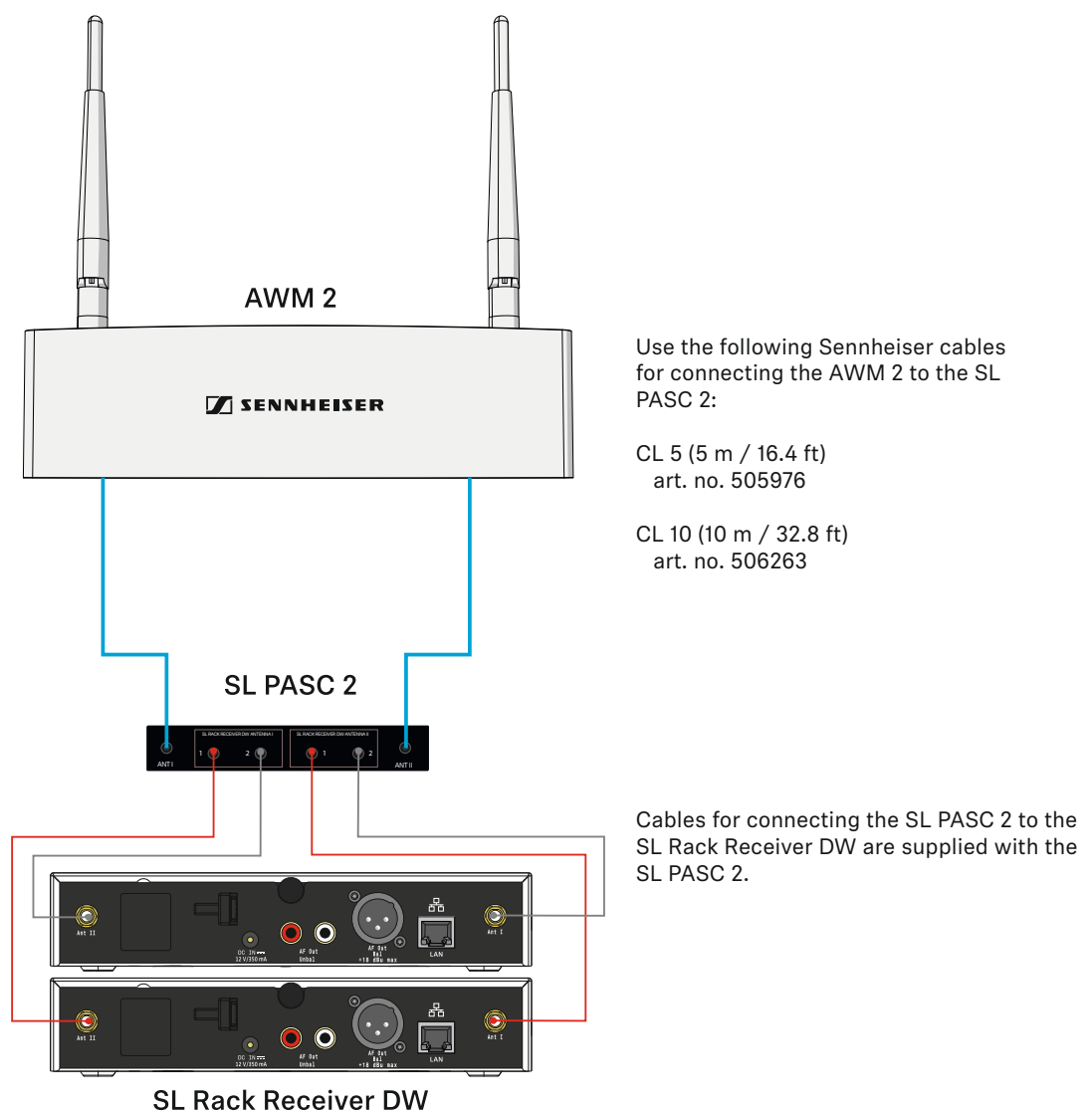


Option 2: Combining multiple links to one AWM 2/ AWM 4

With this variant, you can use passive antenna splitters (SL PASC 2 or SL PASC 4) together with the AWM 2 or AWM 4 to combine the antenna signals from multiple receivers. This reduces the number of antenna cables required to a minimum.

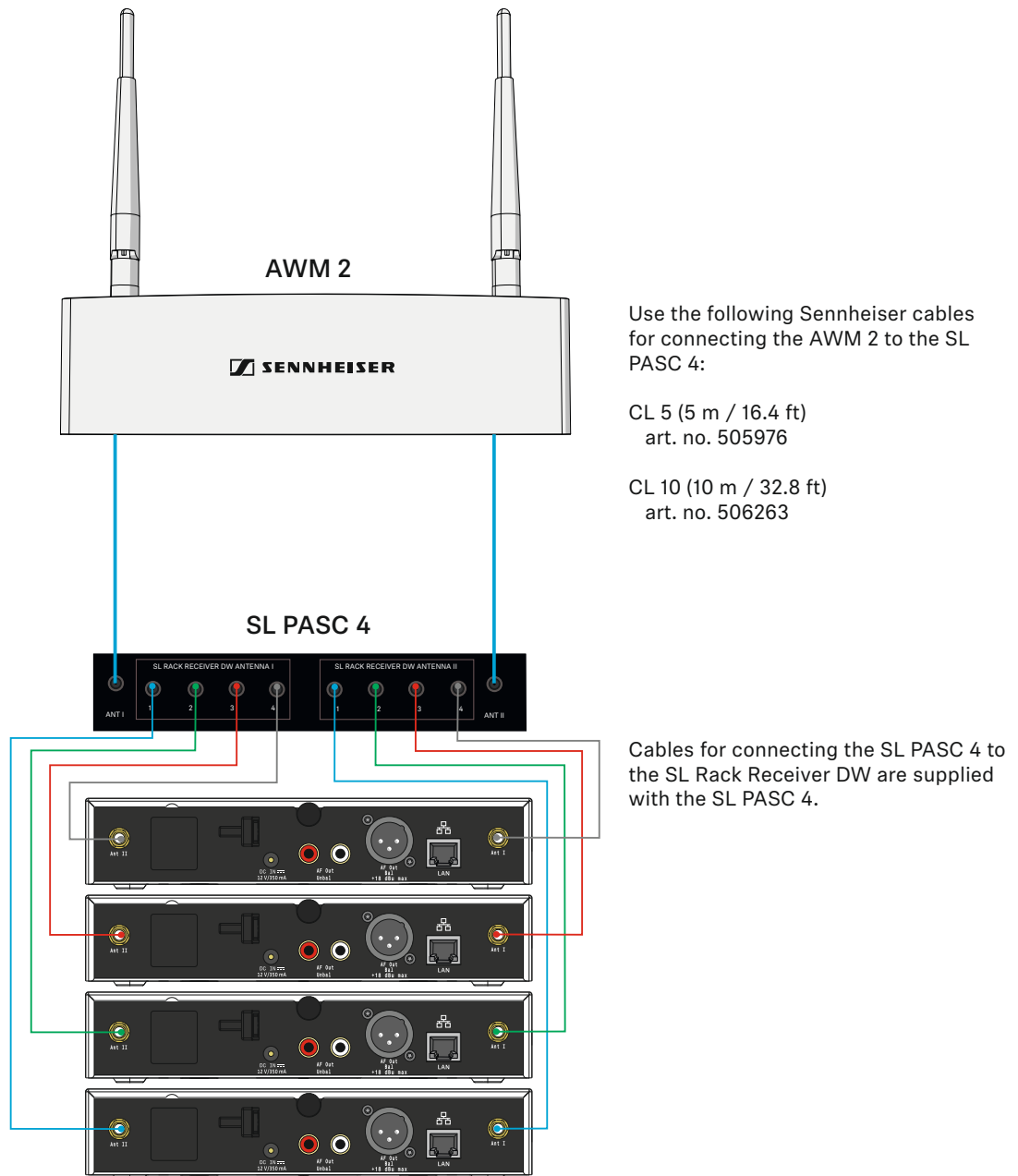
Combining up to 2 links using the AWM 2 and the SL PASC 2

The following illustration shows an example of how to combine up to 2 links with one AWM 2 antenna wall mount. This reduces the number of antenna cables required from 4 to 2.



- Please observe the information below on the length of the extension cables („Signal loss due to extension cables and antenna splitters“).

The following illustration shows an example of how to combine up to 4 links with one AWM 2 antenna wall mount. This reduces the number of antenna cables required from 8 to 2.



- ▷ Please observe the information below on the length of the extension cables („Signal loss due to extension cables and antenna splitters“).

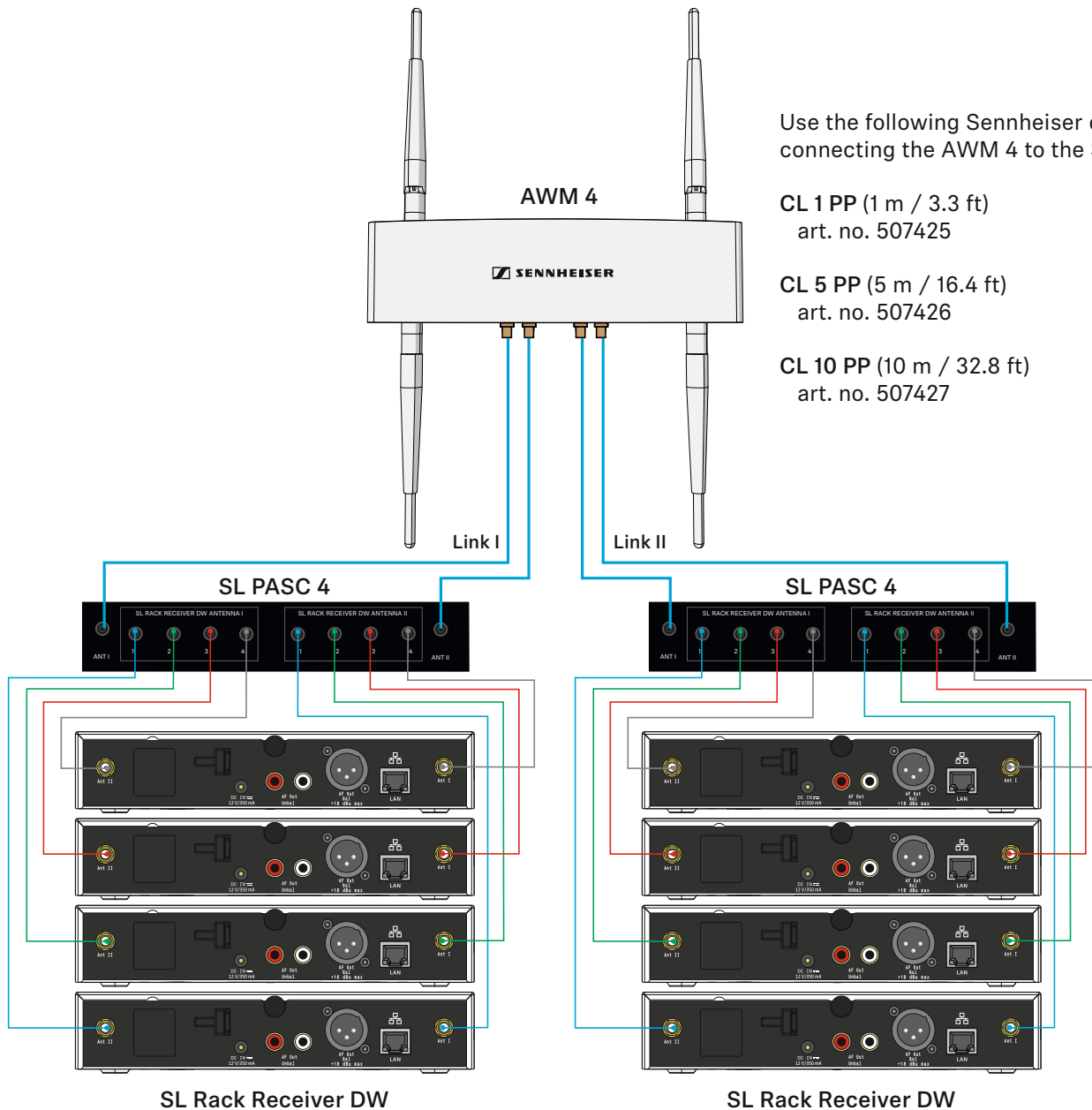


 Always combine all antenna sockets ANT I of all receivers and all antenna sockets ANT II of all receivers respectively to one of the two antennas of the AWM 2. If you are using only 3 of the 4 connections on the antenna splitter, you should close the unused connection with a terminating resistor (50 Ω) to minimize interfering signals and maximize transmission power.



Combining up to 8 links using the AWM 4 and two SL PASC 4 units

The following illustration shows an example of how to combine up to 8 links with one AWM 4 antenna wall mount. This reduces the number of antenna cables required from 16 to 4.



Use the following Sennheiser cables for connecting the AWM 4 to the SL PASC 4:

CL 1 PP (1 m / 3.3 ft)
art. no. 507425

CL 5 PP (5 m / 16.4 ft)
art. no. 507426

CL 10 PP (10 m / 32.8 ft)
art. no. 507427

Cables for connecting the SL PASC 4 to the SL Rack Receiver DW are supplied with the SL PASC 4.

- Please observe the information below on the length of the extension cables („Signal loss due to extension cables and antenna splitters“).



Always combine all antenna sockets ANT I of up to four receivers and all antenna sockets ANT II of up to four receivers respectively to the two sockets of one link of the AWM 4. If you are not using all connections on the antenna splitter, you should close the unused connections with a terminating resistor (50 Ω) to minimize interfering signals and maximize transmission power.



Signal loss due to extension cables and antenna splitters

In this scenario, the use of extension cables and antenna splitters with a remotely mounted antenna may result in loss of transmission power, depending on the cable length.

You can compensate this signal loss by configuring the transmission power of the receiver accordingly. Observe the following minimum transmission power settings (SL Rack Receiver DW: **System Settings menu -> RF Power**) for the respective cable lengths. The antenna splitter causes about as much signal loss as a cable length of 15 m. These losses must be included in the calculation of the transmission power level.

We **recommend** the following **cable lengths** in combination with the antenna splitter:

- Receiver to splitter: 1 m -> splitter to AWM 2/4: 1 m
- Receiver to splitter: 1 m -> splitter to AWM 2/4: 5 m
- Receiver to splitter: 1 m -> splitter to AWM 2/4: 10 m
- Receiver to splitter: 5 m -> splitter to AWM 2/4: 1 m
- Receiver to splitter: 5 m -> splitter to AWM 2/4: 5 m
- Receiver to splitter: 10 m -> splitter to AWM 2/4: 1 m



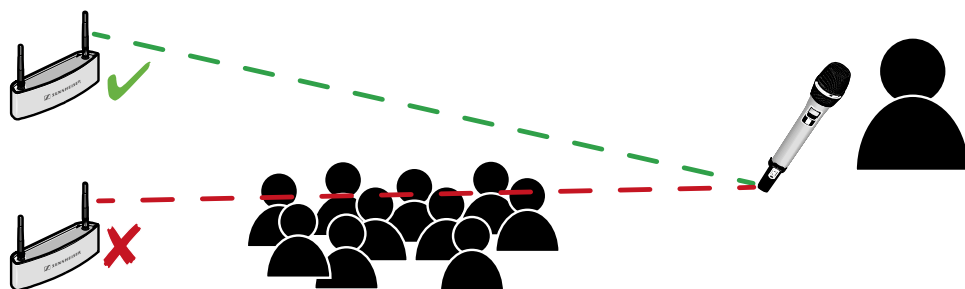
Cables longer than 10 m are not recommended for this variant.

This results in the following transmission power levels to be set in the menu of the receiver or simultaneously for all receivers in the Sennheiser Control Cockpit software:

- 5 m cable length plus splitter -> at least **level 2**
- 10 m cable length plus splitter -> at least **level 3**

Direct line of sight

- If possible, position the antennas so that there is a direct line of sight (without obstacles) between the transmitters and the antennas.

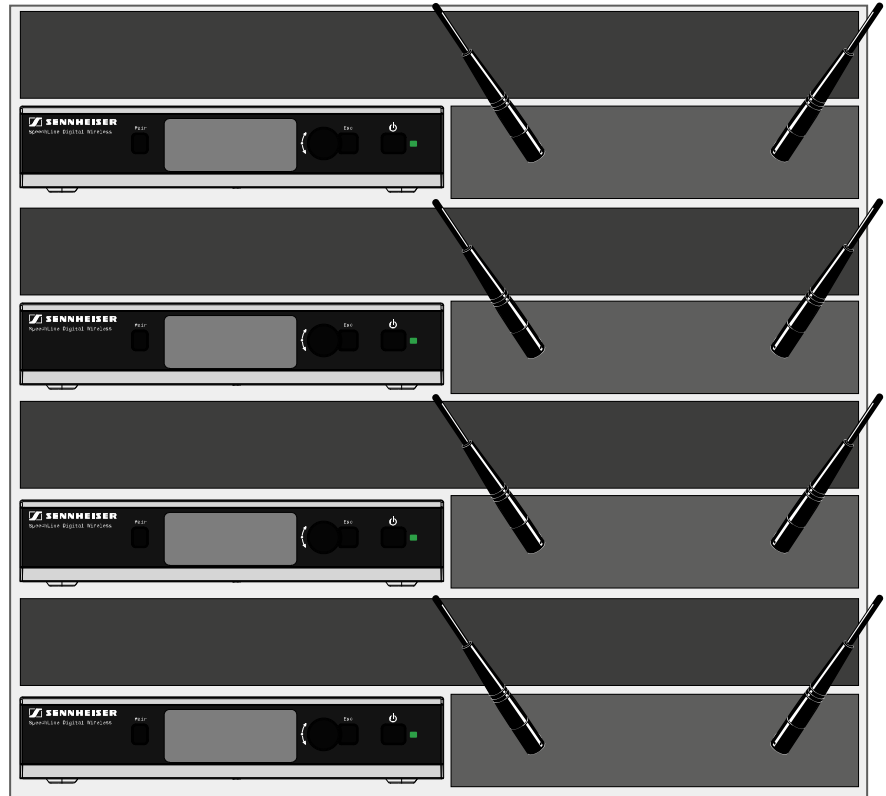




Option 3: Rack mounting - front

If you wish to install the antennas together with the receivers in a rack, we recommend mounting the antennas on the front side of the rack using the GA 4 mounting kit.

- Always leave 1 U of space between receivers and antennas.
- Position the antennas at an angle of about 45°.

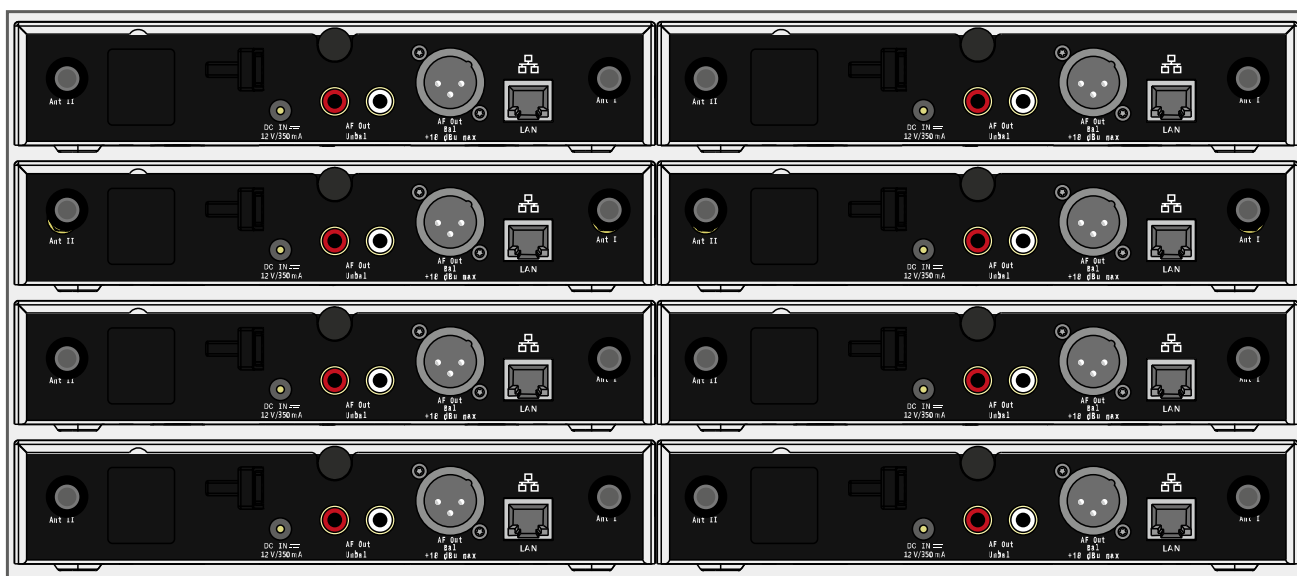




Option 4: Rack mounting - rear

If you cannot mount the antennas at the front of the rack (option 3), you can also mount them at the rear of the receiver in the rack. When mounting, observe the following information.

- Position the antennas so that they point at a 180-degree angle away from the receiver.
- Run all cables close to the receivers to prevent the cables from interfering with the antenna reception. Use the cable grip.
- For best system performance, make sure that the antennas are not covered or shielded by blocking obstacles such as cables, metal plates, or cases.
- In this case, and if possible, make sure that there is a direct line of sight between the transmitters and the receivers for best possible RF performance.

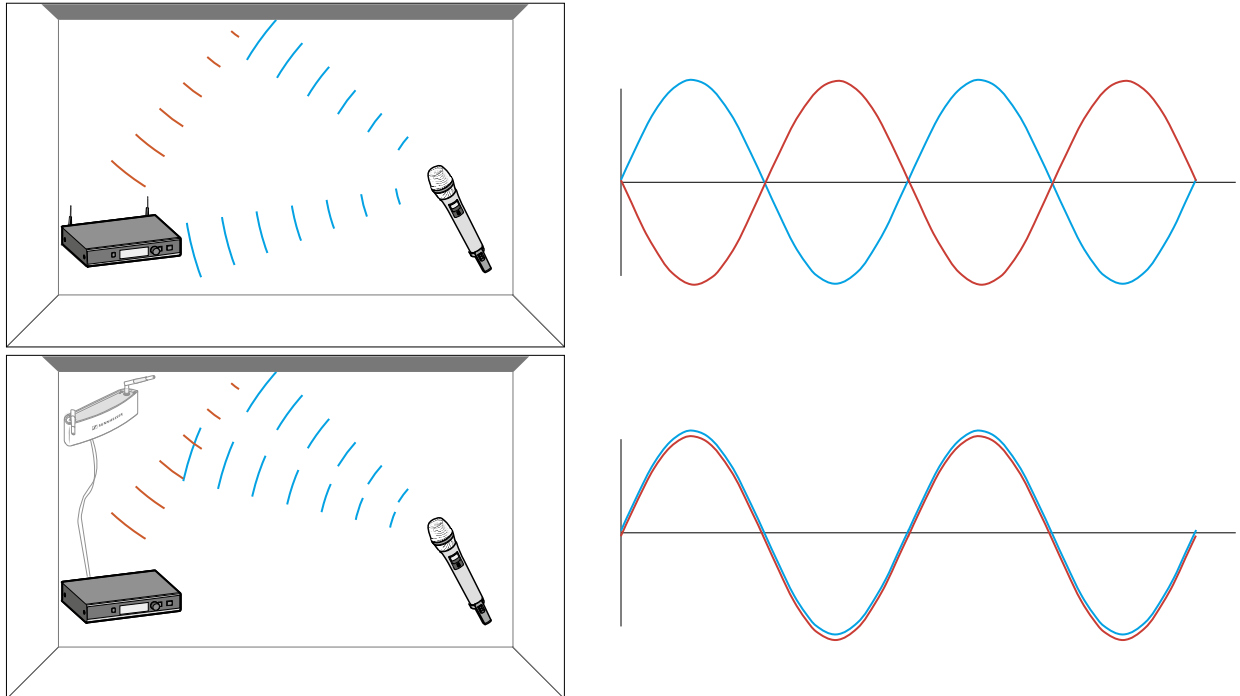




Further important information on antenna usage

Reflecting surfaces

Electrically conducting surfaces (e.g. ceilings with metal constructions) can reflect the RF signal.



The signal is reflected by the electrically conducting surface. At worst, the blue signal and the red reflected signal are out of phase when they reach the receiver so that the two signals cancel each other out.

- If you have electrically conducting surfaces in a room, make sure to position the receiver or the antenna wall mounts so that such reflection effects are avoided.

If you have a reflecting ceiling, this can be achieved by positioning the antennas closer to the ceiling.

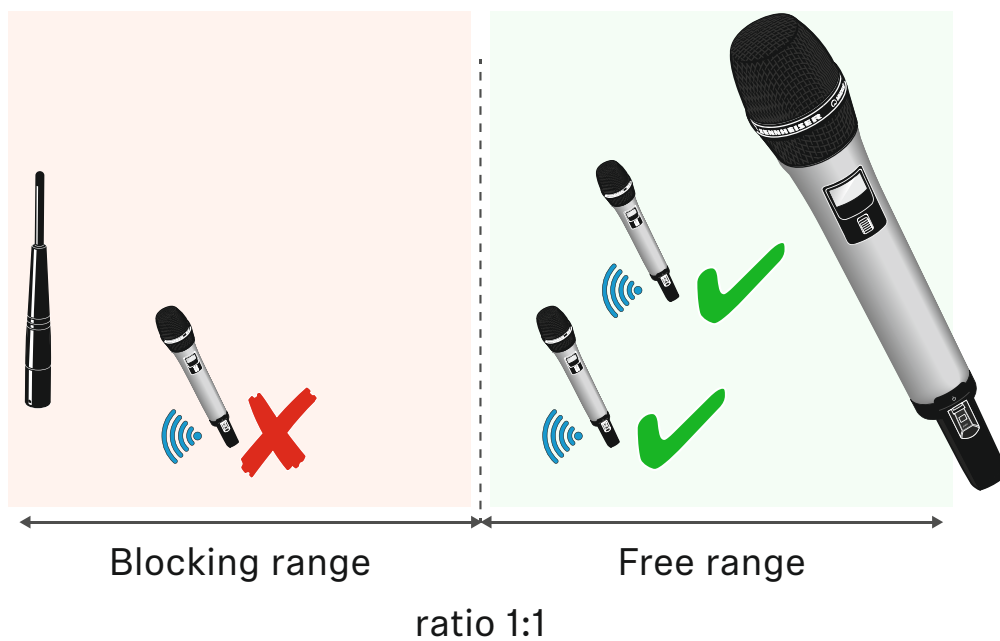
Blocking effects from other transmitters

As with all wireless microphone systems, suboptimal positioning of transmitters can lead to blocking effects. To avoid this, please follow these recommendations:

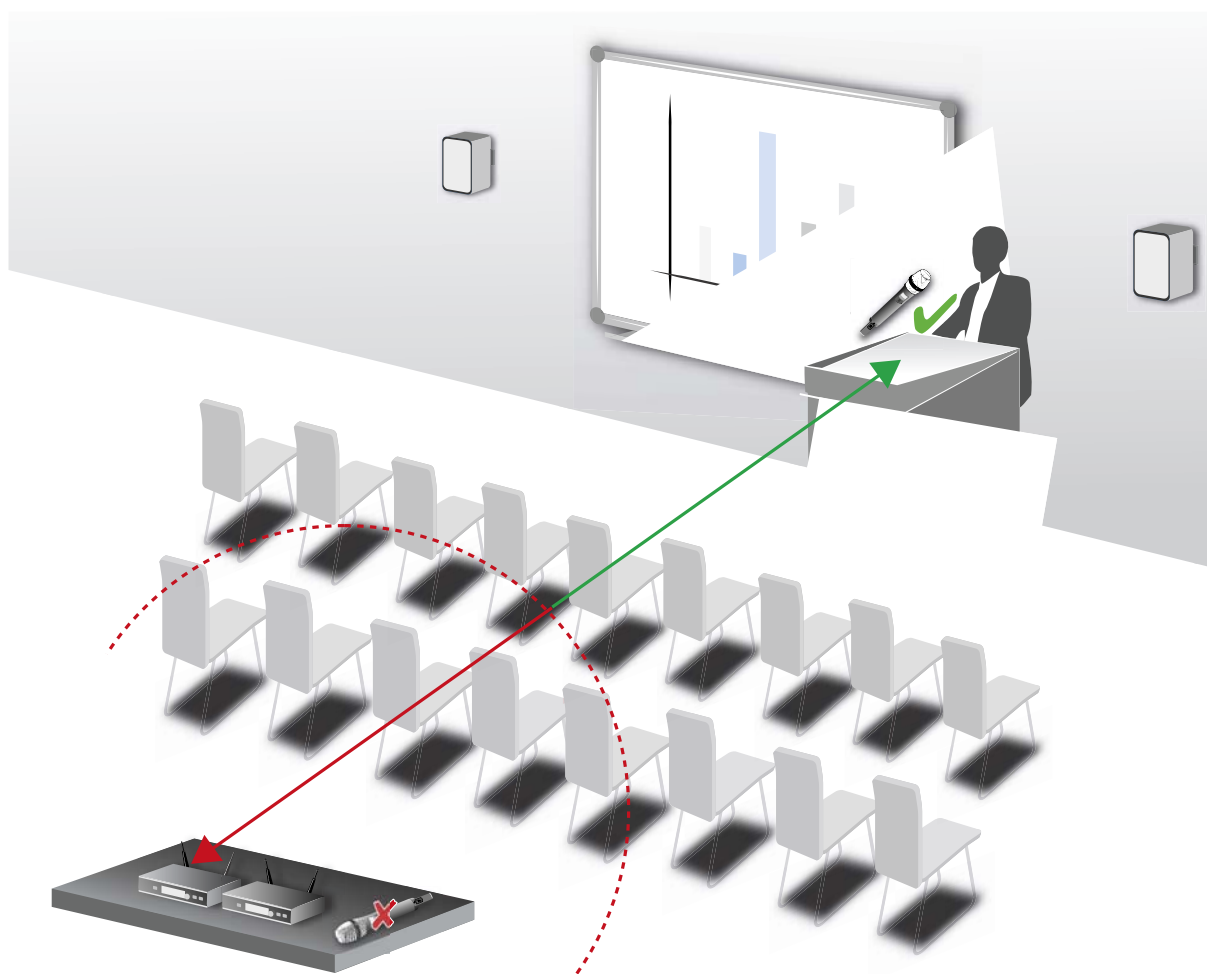
- Position DECT telephone or DECT access points at least 7 m from the antennas.
- Position other wireless devices such as mobile phones at least 1 to 2 m from the antennas.
- When transmitters are currently in use, **you must not position any other transmitters in the blocking area.** If you must position them there, switch them off.



Rule of thumb for distance from the blocking area:



Example:





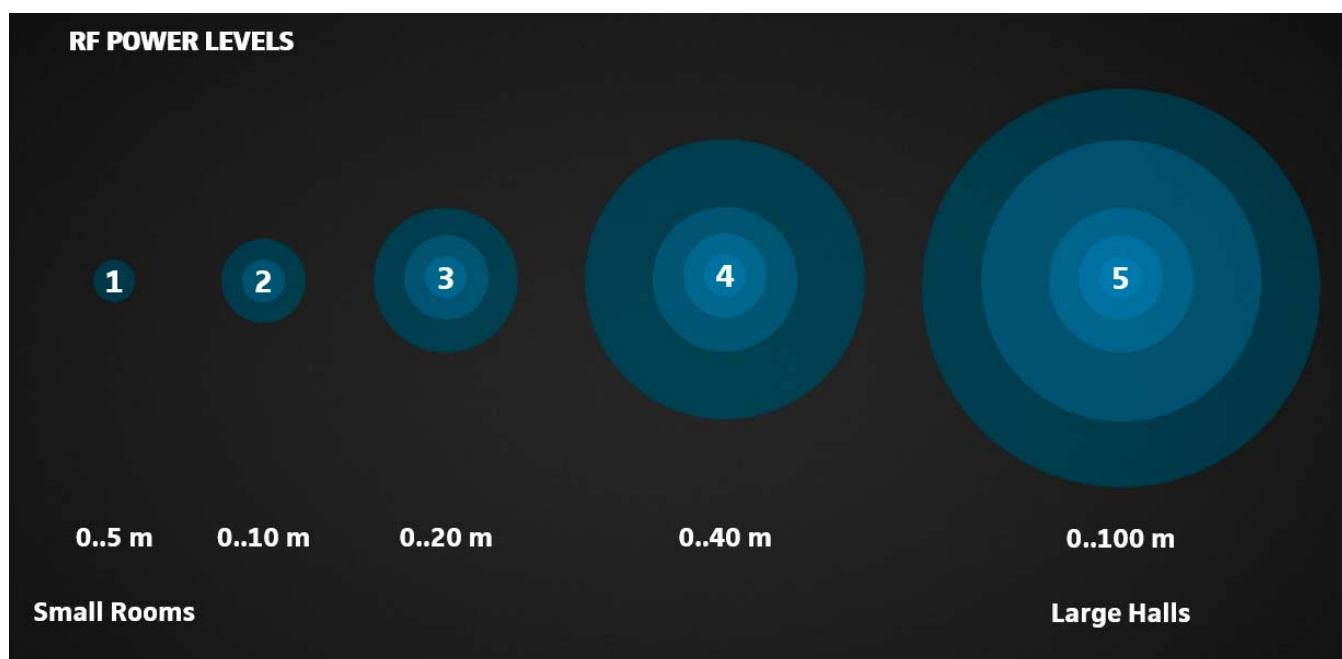
Multi-room mode

SpeechLine Digital Wireless, by taking into account the installation size as well as country-specific regulations, allows to optimally use the 1.9 GHz frequency band.

SpeechLine Digital Wireless offers two operating modes for different types of installation: the **automatic mode** with adaptive transmission power for single-room installations (**Adaptive Power Mode**) and the **manual mode** for multi-room installations, which is known as **Multi-Room Mode**.

For up to 20* links used in parallel, the **Adaptive Power Mode** ensures extremely easy startup and a reliable maximum range.

The **Multi-Room Mode** allows you to adjust the transmission power to allow for a considerably larger number of links.



These adjustment options make SpeechLine Digital Wireless the optimum solution for a great variety of projects with widely differing installation sizes at the same location.

* depending on the locally approved variant (see „Country-Specific Variants“).

When installing and starting up SpeechLine Digital Wireless systems in projects of different sizes, observe the following steps.



Single room – installation and startup

- ▷ Install all receivers in one rack (see „Installing receivers in a rack“).
- ▷ Wire all receivers (see „Connecting the receiver“).
- ▷ Mount all antennas as recommended (see „Recommendations on antenna mounting“).
- ▷ Make sure that all receivers are switched off.
- ▷ Switch the first receiver on. This receiver will be the master receiver.
- ▷ Pair a transmitter to the receiver. Only do this if necessary. The receiver/transmitter sets are already factory pre-paired on delivery.
- ▷ Wait until the status LED on both the receiver and the transmitter lights up green.
- ▷ Perform a walk test to check the transmission power (see „Performing a walk test (reception quality)“).
- ▷ Switch on all other receivers. These receivers synchronize with the master receiver. Make sure the master receiver remains switched on.

Several rooms – installation and startup

When installing SpeechLine Digital Wireless in several rooms, it is crucial that you perform the following steps one after the other and room by room. When installing SpeechLine Digital Wireless devices in one room, all devices in all other rooms must be switched off.

- ▷ Install all receivers in a room in one rack (see „Installing receivers in a rack“).
- ▷ Wire all receivers (see „Connecting the receiver“).
- ▷ Connect the power supply units of all receivers to a multi-outlet power strip with a central on/off switch.
- ▷ Mount all antennas as recommended (see „Recommendations on antenna mounting“).
- ▷ Make sure that all receivers are switched off.
- ▷ Switch the first receiver on. This receiver will be the master receiver.
- ▷ Pair a transmitter to the receiver. Only do this if necessary. The receiver/transmitter sets are already factory pre-paired on delivery.



- ▷ Wait until the status LED on both the receiver and the transmitter lights up green.
- ▷ Adjust the transmission power of the receiver to the desired setting as indicated in the receiver's operating menu (**System Settings menu -> RF Power**)
- ▷ Switch the receiver off and on again to apply this setting.
- ▷ Perform a walk test to check the transmission power (see „Performing a walk test (reception quality)“).
- ▷ If necessary, re-adjust the transmission power and then repeat the walk test.
- ▷ The master receiver must remain switched on for the following steps.
- ▷ Switch on all other receivers. These receivers synchronize with the master receiver.
- ▷ Adjust all the receivers to the same transmission power as the master receiver.
- ▷ Switch all receivers off and on again. Make sure the master receiver remains switched on.
- ▷ After this rack has been configured, the receivers must only be switched on and off together – not individually. Switch the complete rack on and off using the on/off switch of the multi-outlet power strip.
- ▷ Switch off the rack in this room and repeat the above steps for configuring the rack in the next room.



INSTRUCTION MANUAL

SpeechLine Digital Wireless: Instruction manual

This manual provides detailed information about installation and usage of the individual products in the SpeechLine Digital Wireless series.



SL Rack Receiver DW



SL Handheld DW



SL Bodypack DW



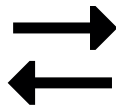
SL Tablestand 133-S DW



SL Tablestand 153-S DW



SL Boundary 114-S DW



Pairing



Walk Test



SL Headmic 1



MKE 1



CHG 2



CHG 4N



CHG 2W



AWM 2



AWM 4



SL PASC 2



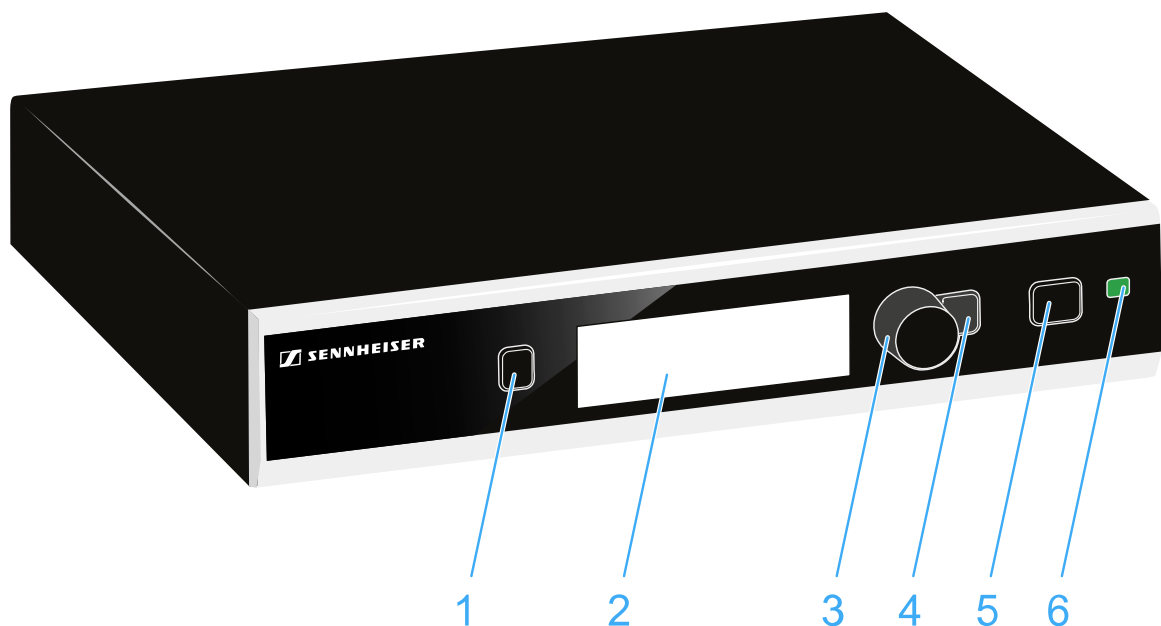
SL PASC 4



SL Rack Receiver DW

The 9.5" rack receiver (SL Rack Receiver DW) is the core of the SpeechLine Digital Wireless system. Thanks to the bi-directional communication between the rack receiver and the transmitter, all transmitter settings can be adjusted on the receiver. The receiver's automatic frequency management eliminates the need for manual frequency setting and the automatic interference management ensures maximum transmission reliability. The user-friendly pairing function ensures a reliable connection between the transmitter and the receiver. Network integration enables the receiver to be remotely controlled and monitored using a media control system (e.g. AMX, Crestron) or the Sennheiser Control Cockpit software. The antennas can either be mounted to the rear of the receiver or to the front of a rack. Antenna cables of different lengths also allow mounting the antennas remotely from the receiver. The antenna cables are available as accessories.

Product overview and operating elements – front panel



1 PAIR button

- Short-press to identify the paired transmitter.
- Long-press to pair with a different transmitter.
- See „Pairing“.

2 Display panel

- See „Displays on the receiver's display panel“.



3 Jog dial

- Turn to navigate through the menu, to change settings or to change from the home screen to the secondary home screen.
- Press to open the menu or to confirm the entry or selection.

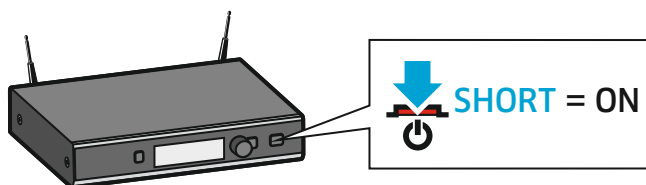
4 ESC button

- Short-press to navigate to the next higher level in the menu or to exit a menu item without confirming new settings or entries.
- Long-press to exit the menu and to return to the home screen.

5 STANDBY button

To switch the receiver on:

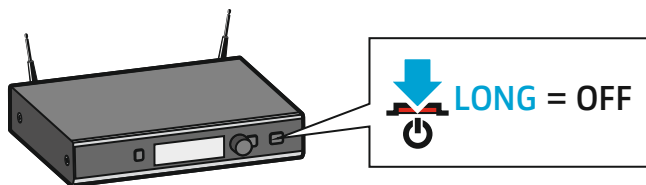
- ▷ Short-press the **STANDBY** button.



The display panel first shows a logo and then the home screen appears. The status LED indicates the current status of the receiver. The radio link to the last paired transmitter is established automatically as soon as the transmitter is switched on.

To switch the receiver off:

- ▷ Long-press the **STANDBY** button.



The display panel and the status LED go off.

6 Status LED

lights up green:

A radio link to the transmitter is established. The accupack of the received transmitter is sufficiently charged.

flashes green:

The **PAIR** button has been short-pressed. Paired devices are being identified.

**flashes alternately green and red:**

The **PAIR** button has been long-pressed. The receiver establishes a radio link to a transmitter whose **PAIR** button has also been long-pressed.

lights up yellow:

The received transmitter has been muted with the **MUTE** switch. In addition, **Muted** is displayed on the display panel.

flashes yellow:

The firmware is being updated.

lights up red:

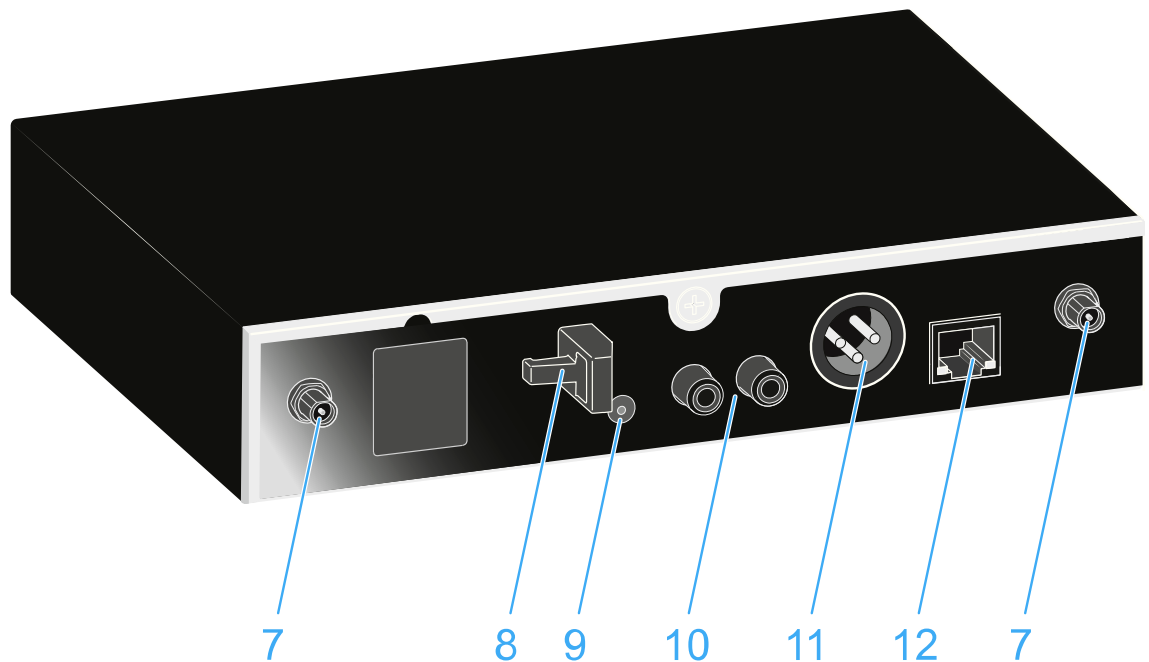
No radio link to a transmitter. In addition, the background of the display panel changes back and forth between light and dark and **No Link** appears on the display panel.

flashes red:

The accupack capacity of the received transmitter is only sufficient for max. 30 minutes of operation.



Product overview and connections – rear panel



7 ANT I and ANT II antenna sockets (R-SMA)

- Antenna inputs for connecting the supplied rod antennas
- Alternatively, the antennas can be mounted using extension cables and the AWM 2 antenna wall mount or using the GA 4 mounting kit.
- See „GA 4 mounting kit“ as well as „The AWM 2 antenna wall mount“ and „The AWM 4 antenna wall mount“.

8 Strain relief grip

- For the cable of the power supply unit.
- See „Connecting the receiver to the power supply system“.

9 DC IN socket

- For the power supply's hollow jack plug.
- See „Connecting the receiver to the power supply system“.

10 AF OUT UNBAL sockets (RCA)

- Unbalanced audio output.
- See „Connecting an amplifier or mixing console to the receiver“.

11 AF OUT BAL socket (XLR-3)

- Balanced audio output (XLR).
- See „Connecting an amplifier or mixing console to the receiver“.

12 LAN Ethernet socket

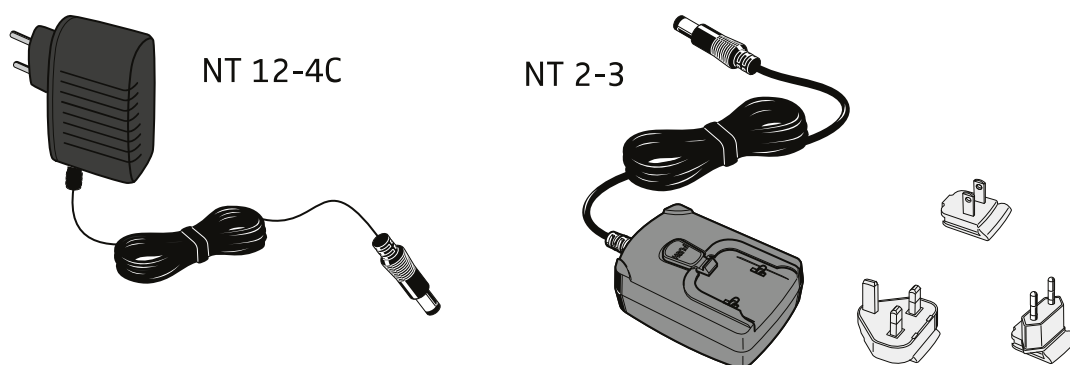
- For connecting to a router or a switch in order to simultaneously control and monitor several devices in the network.
- See „Connecting receivers in a network“.



Connecting the receiver

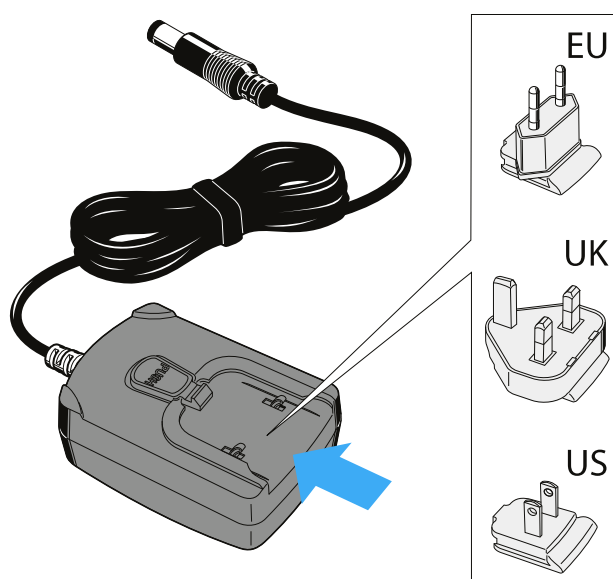
Connecting the receiver to the power supply system

Only use the included power supply unit (NT 12-4 C or NT 2-3) to connect the receiver to the power supply system.



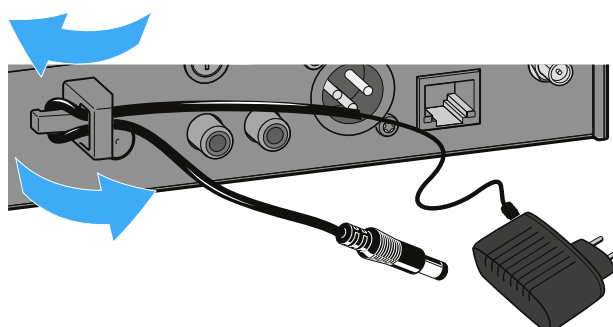
If you use the NT 2-3 power supply unit:

- Slide the supplied country adapter onto the power supply unit.



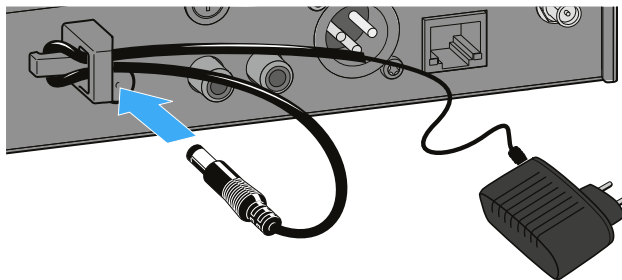
To connect the power supply unit:

- Pass the cable of the power supply unit through the strain relief grip as shown.

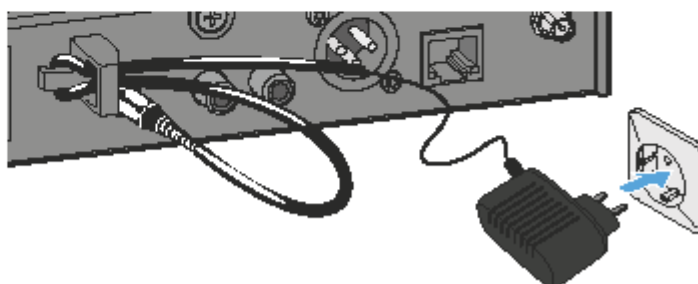




- Connect the hollow jack plug of the power supply unit to the **DC IN** socket of the receiver.

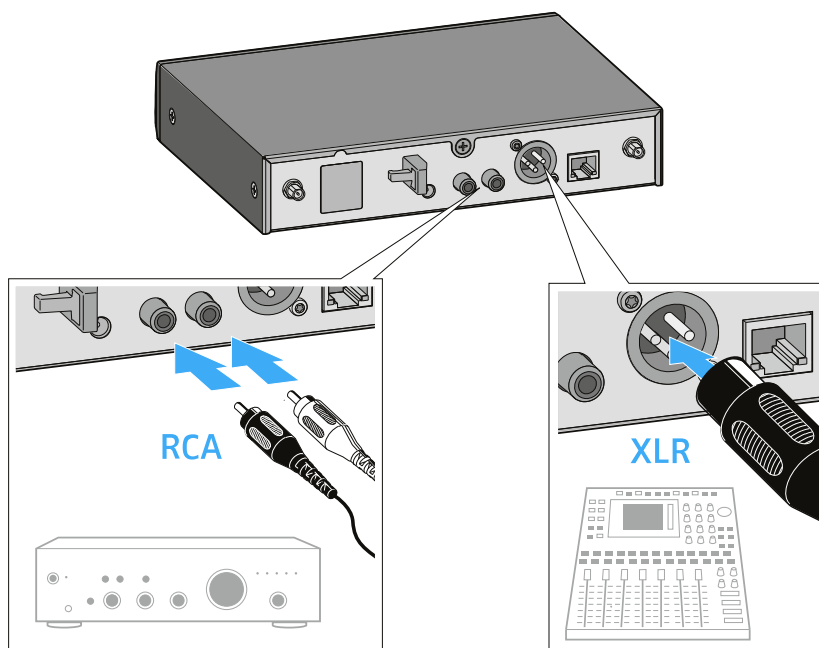


- Plug the power supply unit into the wall socket.



Connecting an amplifier or mixing console to the receiver

The unbalanced audio output (RCA) and the balanced audio output (XLR) at the rear of the receiver are connected in parallel, allowing you to simultaneously connect two devices (e.g. amplifier and mixing console) to the receiver.





Use a suitable audio cable to connect the amplifier or the mixing console to the appropriate audio output of the receiver.

We recommend using the balanced audio output (XLR) because balanced cables are less prone to interference than unbalanced cables.

Controlling and monitoring the receiver via the network

You can connect several receivers in a network using a router or a switch. This allows you to control and monitor a larger SpeechLine Digital Wireless system using the **Sennheiser Control Cockpit** software.

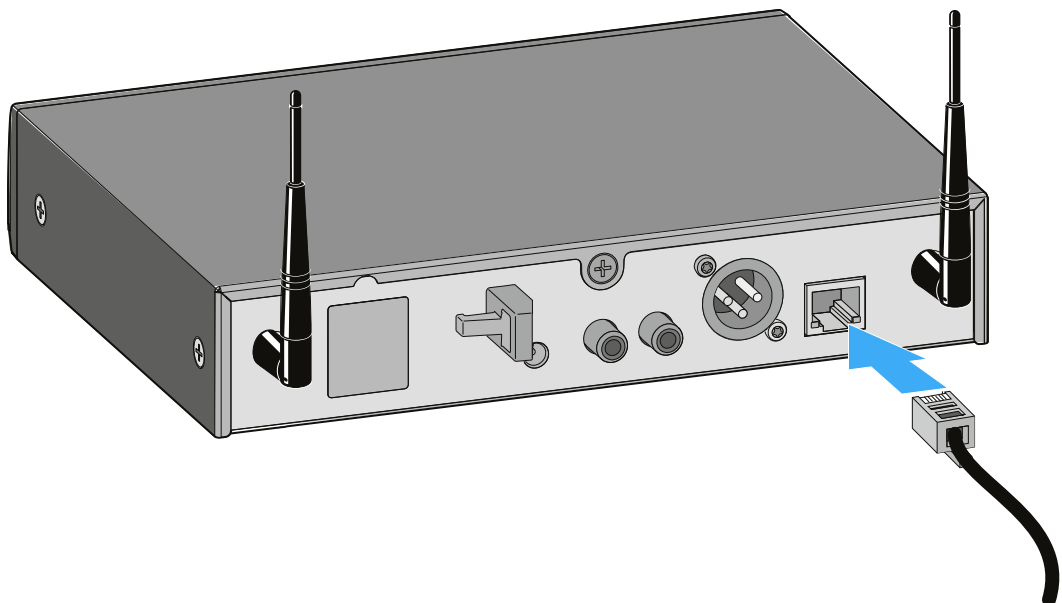
For more information on controlling a system in the network using the **Sennheiser Control Cockpit** software, refer to the instruction manual of the software.

Please note that the host PC on which the **Sennheiser Control Cockpit Service** is installed must be in the same network as the devices that are to be monitored and controlled.

Connecting receivers in a network

To connect the receiver in a network:

- ▷ Connect a standard network cable (at least Cat 5) to the Ethernet socket **LAN** of your receiver.



- ▷ Connect the other end of the network cable to a router or a switch.

The yellow LED next to the **LAN** Ethernet socket of the receiver indicates the connection status:

Yellow LED:

- **On** -> The receiver is connected to the network
- **Off** -> The receiver is not connected to the network



Integrating the receiver into a network with DHCP

The receiver obtains the IP address from the DHCP server. You can see this address in the **Network Settings** menu on the receiver (see „Using the operating menu of the receiver“).

To add the receiver in the **Sennheiser Control Cockpit**:

- Use the **Add Device** function in the **Sennheiser Control Cockpit** and enter the IP address you saw in the settings menu.

Or:

- Activate the **mDNS** function in the receiver's **Network Settings** menu (factory setting: deactivated).
- Restart the receiver.

Once restarted, the receiver is automatically detected in the **Sennheiser Control Cockpit**.

i **mDNS = multicast Domain Name System:** resolves host names to IP addresses within small networks that do not include a local name server. Used for automatic device discovery.

Integrating the receiver into a network without DHCP using Auto IP

If there is no DHCP server in the network and you are working with automatically generated IP addresses, please observe the following information.

- Set the **Mode** to **Automatic** in the receiver's **Network Settings** menu.
- Ensure that the host PC on which the **Sennheiser Control Cockpit service** is installed is configured so that the IP address is assigned automatically, rather than a static configuration.

After several minutes, all receivers in the network will receive a **link-local** address in the range of **169.254.x.x**. You can see this address in the **Network Settings** menu on the receiver (see „Using the operating menu of the receiver“).

To add the receiver in the **Sennheiser Control Cockpit**:

- Use the **Add Device** function in the **Sennheiser Control Cockpit** and enter the IP address you saw in the settings menu.

Or:

- Activate the **mDNS** function in the receiver's **Network Settings** menu (factory setting: deactivated).
- Restart the receiver.

Once restarted, the receiver is automatically detected in the **Sennheiser Control Cockpit**.

i **mDNS = multicast Domain Name System:** resolves host names to IP addresses within small networks that do not include a local name server. Used for automatic device discovery.



Integrating the receiver into a network without DHCP using Fixed IP

If there is no DHCP server in the network and you are working with fixed IP addresses, please observe the following information.

- Set the **Mode** to **Fixed** in the receiver's **Network Settings** menu.
- Manually enter an IP address in the **IP** option in the receiver's **Network Settings** menu.

To add the receiver in the **Sennheiser Control Cockpit**:

- Use the **Add Device** function in the **Sennheiser Control Cockpit** and enter the IP address you selected.

Or:

- Activate the **mDNS** function in the receiver's **Network Settings** menu (factory setting: deactivated).
- Restart the receiver.

Once restarted, the receiver is automatically detected in the **Sennheiser Control Cockpit**.

 **mDNS = multicast Domain Name System:** resolves host names to IP addresses within small networks that do not include a local name server. Used for automatic device discovery.

Updating the firmware

The firmware of the receiver is updated using the **Sennheiser Control Cockpit** software.

You can find more information about this procedure in the software instruction manual in the **Sennheiser Documentation app** or in the download area of the Sennheiser website at www.sennheiser.com/download.

Sennheiser Control Cockpit instruction manual

Download area for the Sennheiser website



Setting up the receiver

This section describes how to set up the receiver.

You can also install the receiver in a fixed location, e.g. in a 19" rack. You can find more information about installing the receiver in a fixed location under: „Installing receivers in a rack“.

Affixing the device feet

Only affix the device feet if you are setting the receiver up in the stand-alone position instead of installing it in a 19" rack. The device feet will get in the way if the receiver is installed in a rack.

To affix the device feet:

- ▷ Clean the recesses for the device feet at the base of the receiver.
 - ▷ Affix the device feet to the recesses of the receiver.
 - ▷ Place the receiver on a flat, horizontal surface.
- The device feet will adhere reliably to the receiver only after some time. Avoid moving the receiver during this time.

ATTENTION

Risk of staining furniture surfaces

The device feet may leave stains if they come into contact with furniture.

- ▷ Do not place the receiver on delicate surfaces.
-

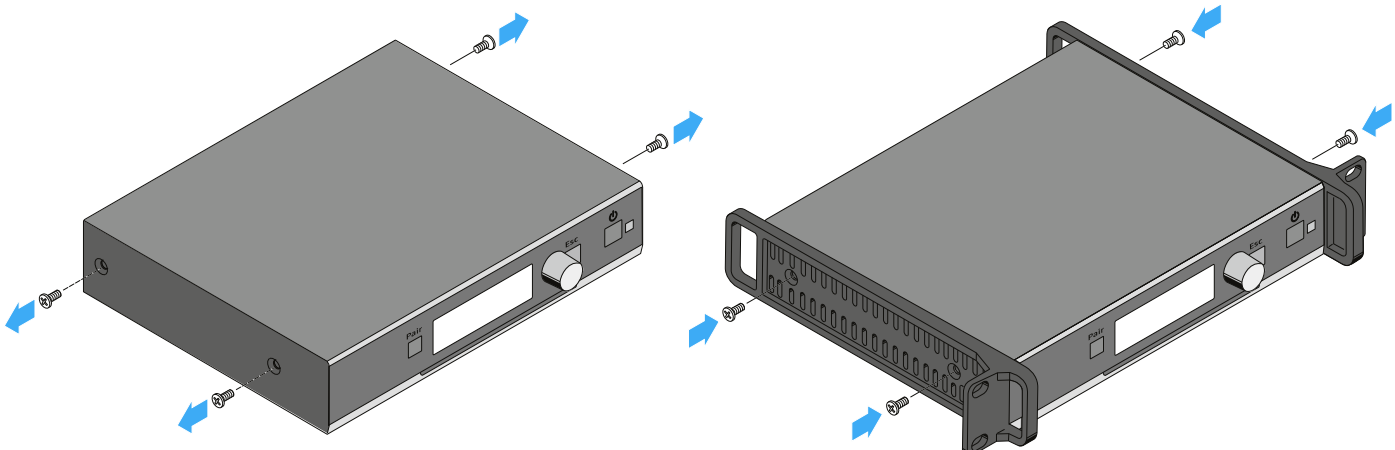
Attaching the mounting angles

The mounting angles are designed to help protect the operating elements from damage or deformation, e.g. if the receiver is dropped. We therefore recommend always attaching the mounting angles, even if you do not want to mount the receiver into a rack.

To fasten the mounting angles:

- ▷ Unscrew and remove the two recessed head screws on each side of the receiver.
- ▷ Secure the mounting angles to the sides of the receiver using the previously removed recessed head screws.

Make sure that the angled ends of the mounting angles point forward.

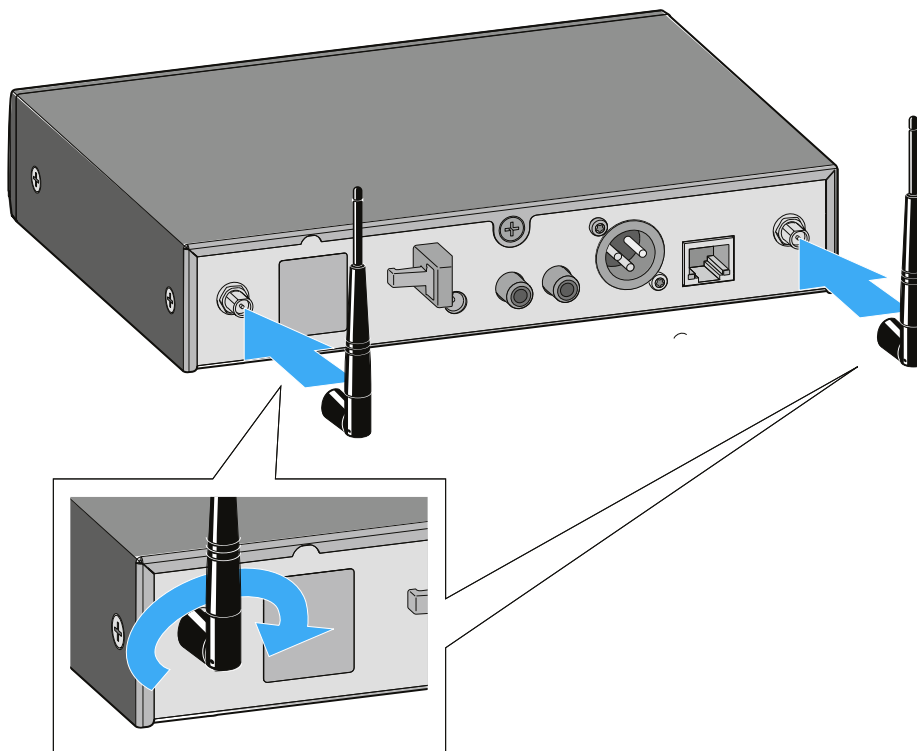




Connecting the rod antennas to the receiver

To connect the supplied rod antennas to the receiver:

- ▷ Screw the two rod antennas into the receiver's two antenna sockets, **ANT I** and **ANT II**, as shown.
- ▷ Align the rod antennas vertically.



Connecting the AWM 2 / AWM 4 remote antenna to the receiver

Instead of the supplied rod antennas, you can also connect a remote antenna to the receiver. For more information, see „The AWM 2 antenna wall mount“ and „The AWM 4 antenna wall mount“.

- ▷ Pay attention to the notes about antenna installation under „Recommendations on antenna mounting“.



Installing receivers in a rack

This chapter describes how to install a single receiver or two receivers side by side in a rack.

You can also set up the receiver without installing it in a fixed location. You can find more information about setting up the receiver under: „Setting up the receiver“.

ATTENTION

Danger due to high temperature, mechanical loading or electric leakage currents

When rack mounted, a receiver can be damaged by excessive heat or mechanical stress.

- ▷ Make sure that the temperature within the rack does not exceed the permissible temperature limit specified in the specifications.
 - ▷ Make sure that the receivers in the rack are not subject to mechanical stress.
 - ▷ Make sure that circuits are not overloaded by providing overcurrent protection if necessary.
 - ▷ Make sure that the sum of the leakage currents of all power supply units do not exceed the allowable limit values by grounding the rack via an additional ground connection, if necessary.
-

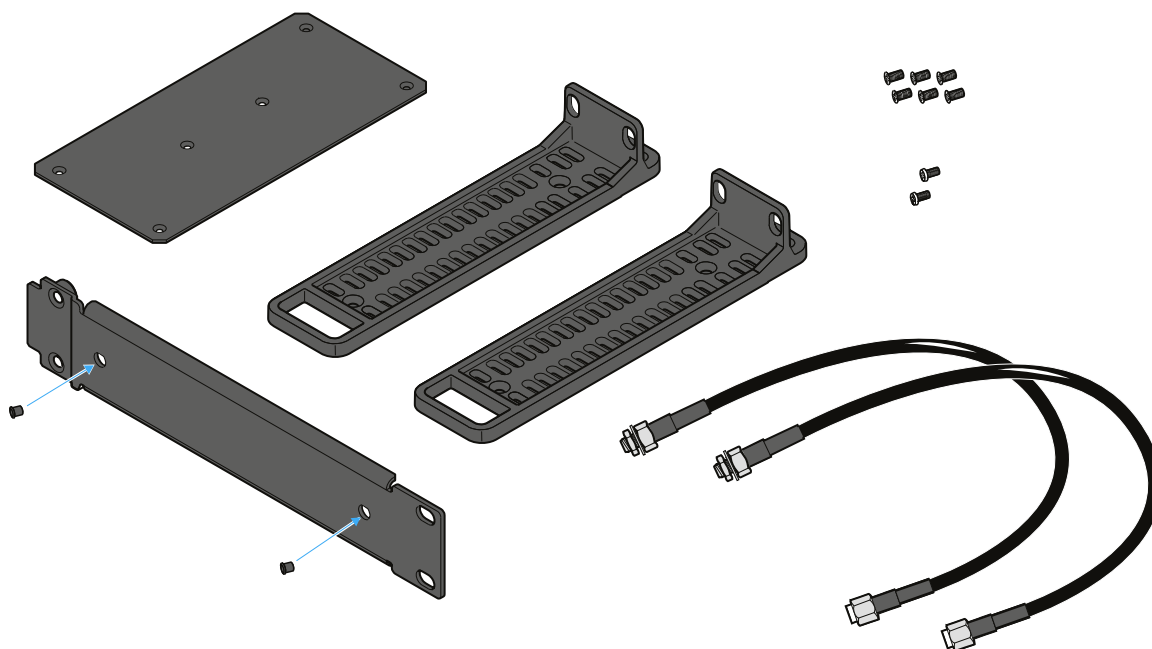


GA 4 mounting kit

You need the GA 4 mounting kit to install the receiver in a rack. The GA 4 mounting kit is available separately as an accessory and is also supplied with the following sets:

- SL Handheld-Set R
- SL Headmic-Set R
- SL Lavalier-Set R

The GA 4 mounting kit consists of:

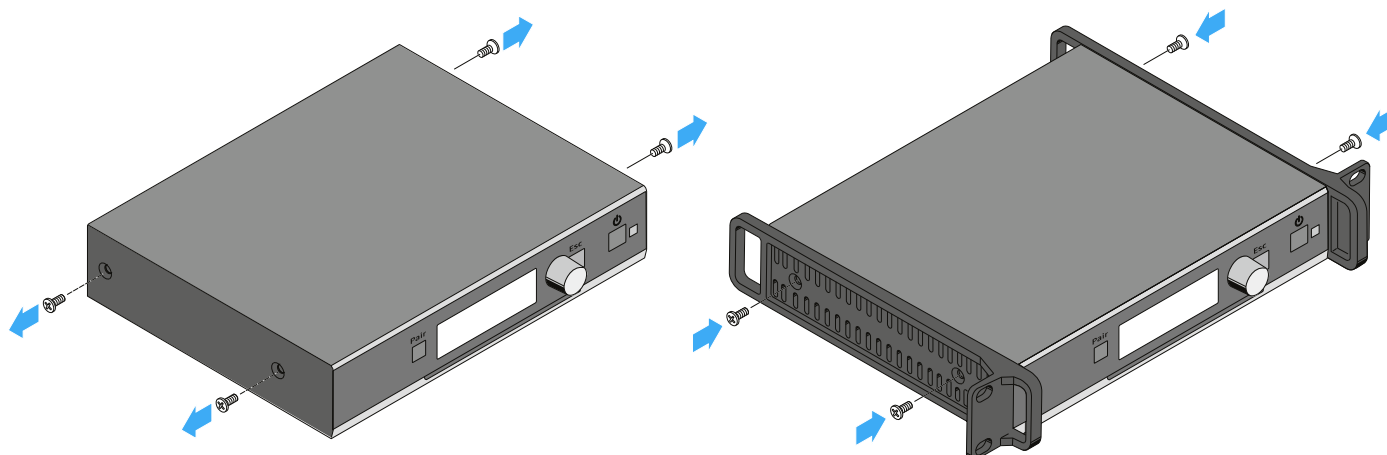


Fastening the mounting angles (to install a receiver)

To fasten the mounting angles:

- ▷ Unscrew and remove the two recessed head screws on each side of the receiver.
- ▷ Secure the mounting angles to the sides of the receiver using the previously removed recessed head screws.

Make sure that the angled ends of the mounting angles point forward.



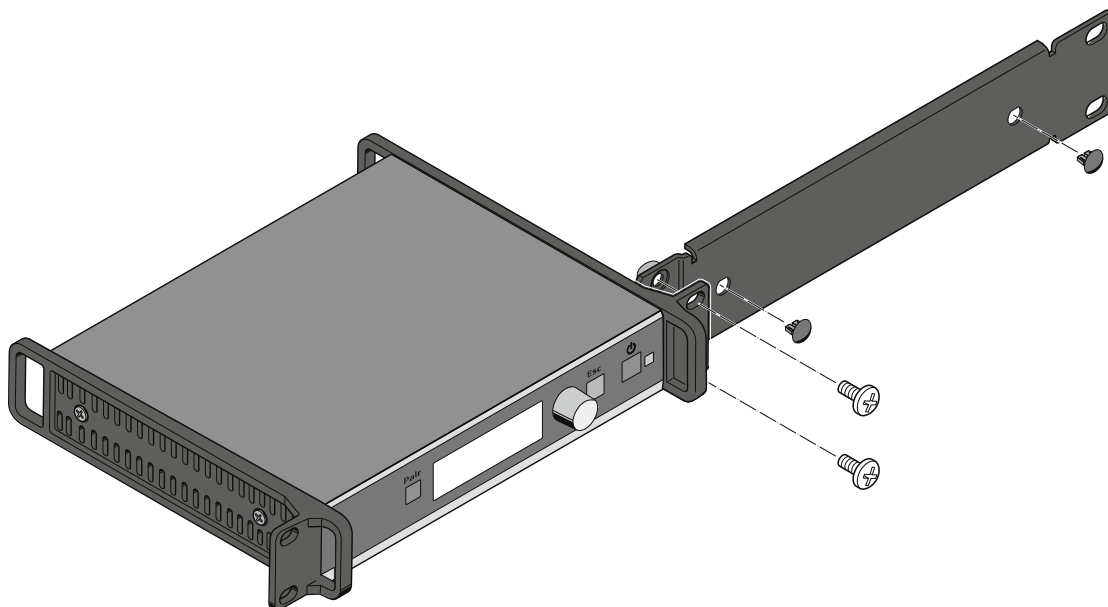


Installing the receiver in a rack

To install the receiver in a rack:

- Use the two supplied recessed head screws to secure the blanking plate from the GA 4 mounting kit to the mounting angle of the receiver as shown.

Make sure to use the correct side (the one with the round holes) of the blanking plate to secure it to the mounting angle.

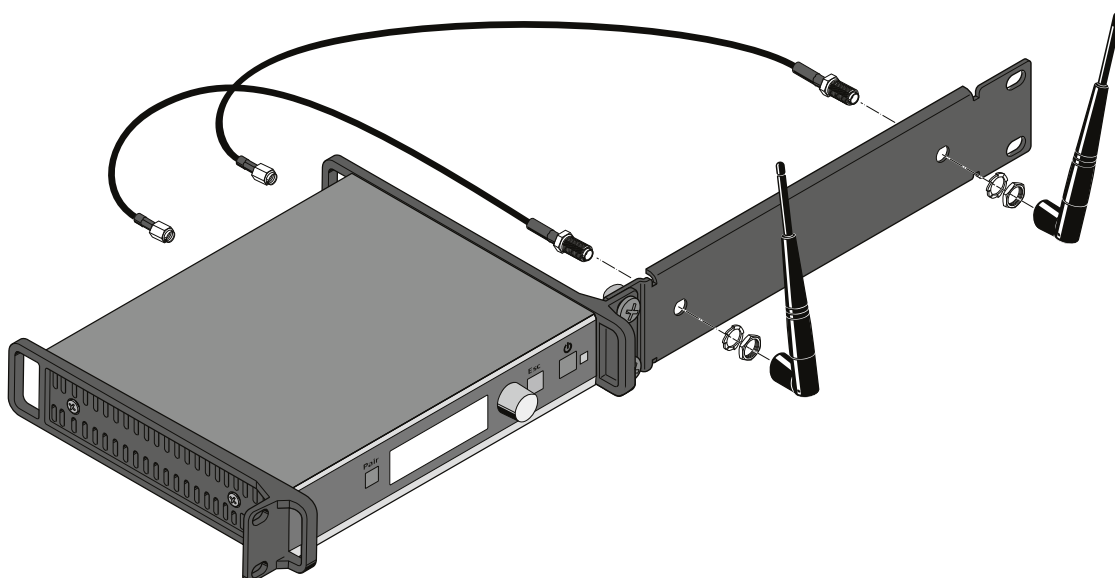


- Only insert the two small covering caps into the antenna holes if you do not wish to install the rod antennas at the front of the rack.
- Slide the receiver with the attached mounting accessories into a 19" rack.

Mounting the rod antennas to the front of the rack

To mount the rod antennas to the front of the rack:

- Connect the included antenna cables to the antenna sockets at the rear of the receiver.
- Pass the other ends of the antenna cables through the antenna holes in the blanking plate and screw them to the rod antennas as shown.





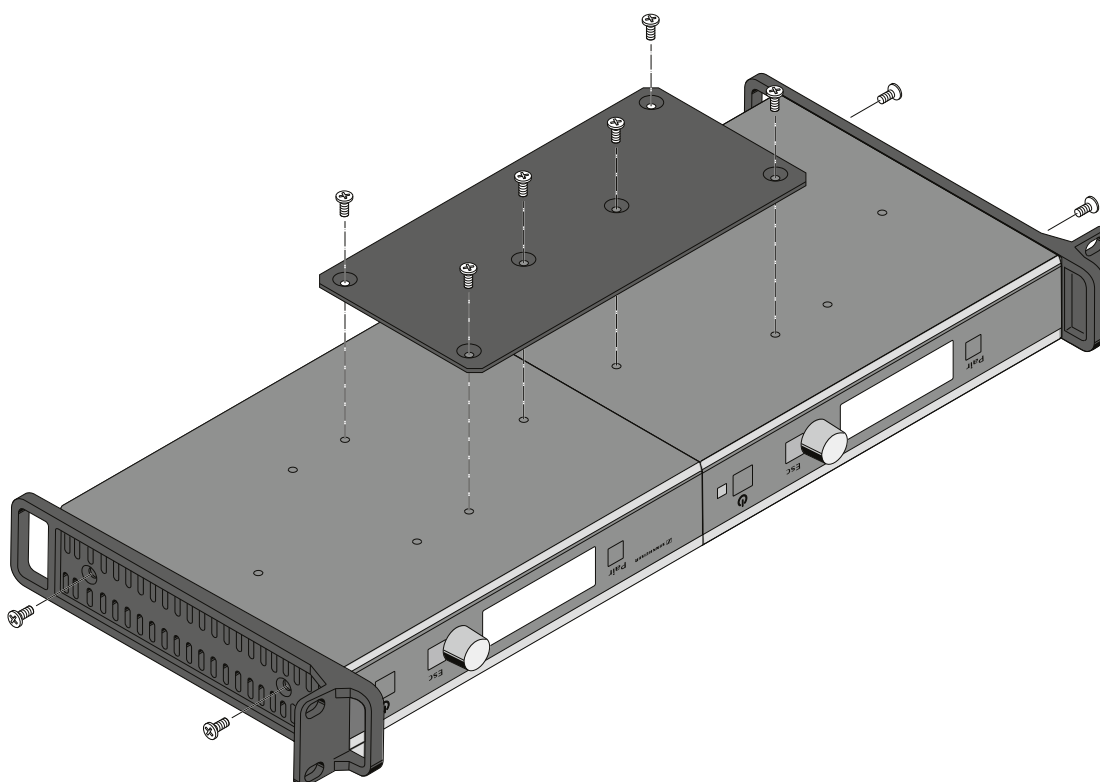
Mounting the jointing plate and fastening the mounting angles (to install two receivers side by side)

To fasten the mounting angles:

- ▷ Unscrew and remove the two recessed head screws on the outward-facing sides of the receiver.
- ▷ Secure the mounting angles to the outward-facing sides of the receiver using the previously removed recessed head screws.

To mount the jointing plate:

- ▷ Place the two receivers side by side upside-down onto a flat surface.
- ▷ Secure the jointing plate to the receiver using the six recessed head screws as shown.



Connecting the AWM 2 / AWM 4 remote antenna to the receiver

Instead of the supplied rod antennas, you can also connect a remote antenna to the receiver. For more information, see „The AWM 2 antenna wall mount“ and „The AWM 4 antenna wall mount“.

- ▷ Pay attention to the notes about antenna installation under „Recommendations on antenna mounting“.

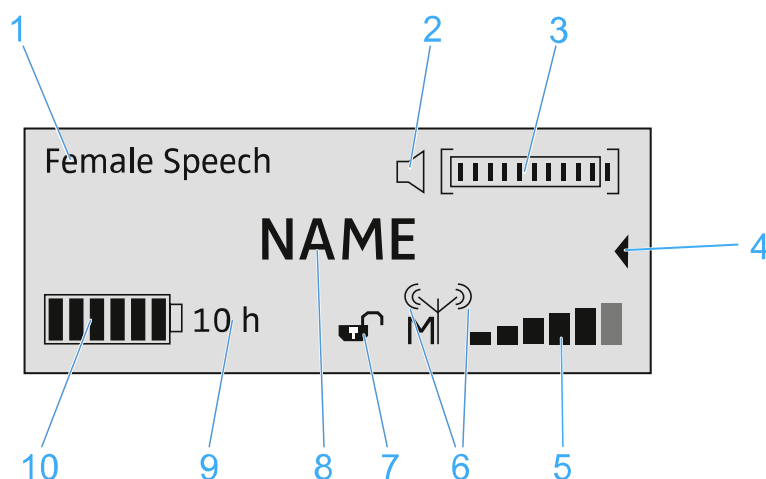


Displays on the receiver's display panel

Home screen

The home screen appears automatically after switch-on or when no button has been pressed on the receiver for a long period of time.

If there is no radio link between the receiver and a transmitter, **No Link** appears on the display panel and the display brightness is automatically dimmed.



1 Selected sound profile

- Displays the name of the selected sound profile. If no sound profile is selected, nothing is displayed here.

2 MUTE status display

-  The received transmitter is not muted, but can be muted at any time.
-  The received transmitter is muted. In addition, the status LED lights up yellow.
-  The received transmitter cannot be muted because its **MUTE** switch is deactivated. See „The System Settings menu“.

3 Audio level display

- The audio level is automatically adjusted.

4 Secondary home screen

- The secondary home screen appears when you turn the jog dial to the left.
- The above shown home screen appears again after 10 seconds or when you turn the jog dial to the right.



5 6-step display for the RF signal level

- Displays the current level of the RF signal

6 RF output power of the transmitter, indicating master or follower

- Displays the RF output power of the received transmitter.
- Indicates whether the device is a master or a follower:



The device is the master.



The device is a follower.



The device is a follower, but is not synchronized.



The synchronization status is unknown.

7 Lock mode



- The lock mode function is activated. The lock mode is currently deactivated and the receiver can be operated.



- The lock mode function is activated. The lock mode is currently activated. Long-press the jog dial to temporarily deactivate the lock mode.

- If no padlock icon is displayed, the lock mode function is deactivated.
- See „The System Settings menu“.

8 Name of the radio link

- The name of the radio link can be configured freely. See „The Device Identification menu“.

9 Expected remaining battery life of the received transmitter

- Displays the remaining battery life of the received transmitter in hours (only when the original Sennheiser BA 10, BA 30 and BA 40 accupacks are used).
- The remaining battery life is not displayed when batteries or rechargeable AA size batteries are used.

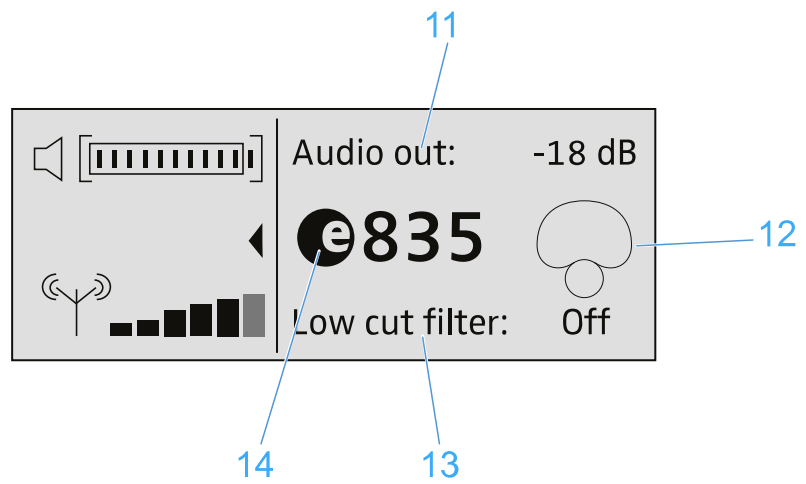
10 7-step display of the accupack or battery capacity

- Graphically displays the current charge status of the accupack or the batteries.



Secondary home screen

When you turn the jog dial to the left from the home screen, the secondary home screen appears.



11 Audio output level of the receiver

12 Pick-up pattern of the microphone used

13 Status of the low-cut filter (ON/OFF)

14 Product name of the microphone capsule used



Using the operating menu of the receiver

Using the buttons for navigation



Press the **STANDBY** button

- Short-press: Switches the receiver on
- Long-press: Switches the receiver off



SHORT Short-press the **ESC** button

- Navigates to the next higher level in the menu
- Exits the menu item without storing changes to the settings



LONG Press the **ESC** button for 3 seconds

- Returns to the home screen



Press the jog dial

- Changes from the home screen to the operating menu
- Calls up the selected menu item
- Changes to the selected submenu
- Confirms the selection or the changed setting



Turn the jog dial

- Switches between the home screen and the secondary home screen
- Changes to the previous or next menu item
- Changes the settings of a menu item



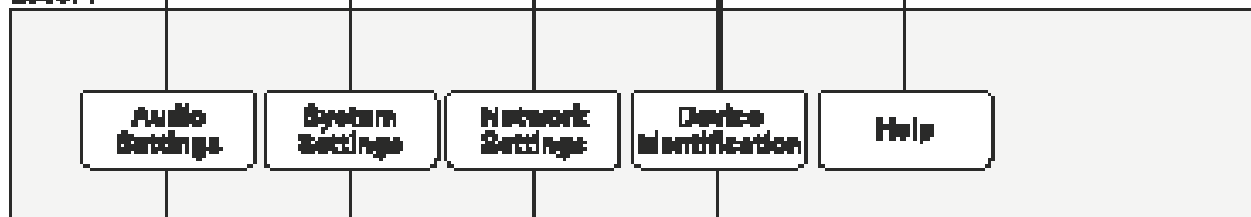
The menu structure of the receiver

Version: Firmware Version 2.6.10

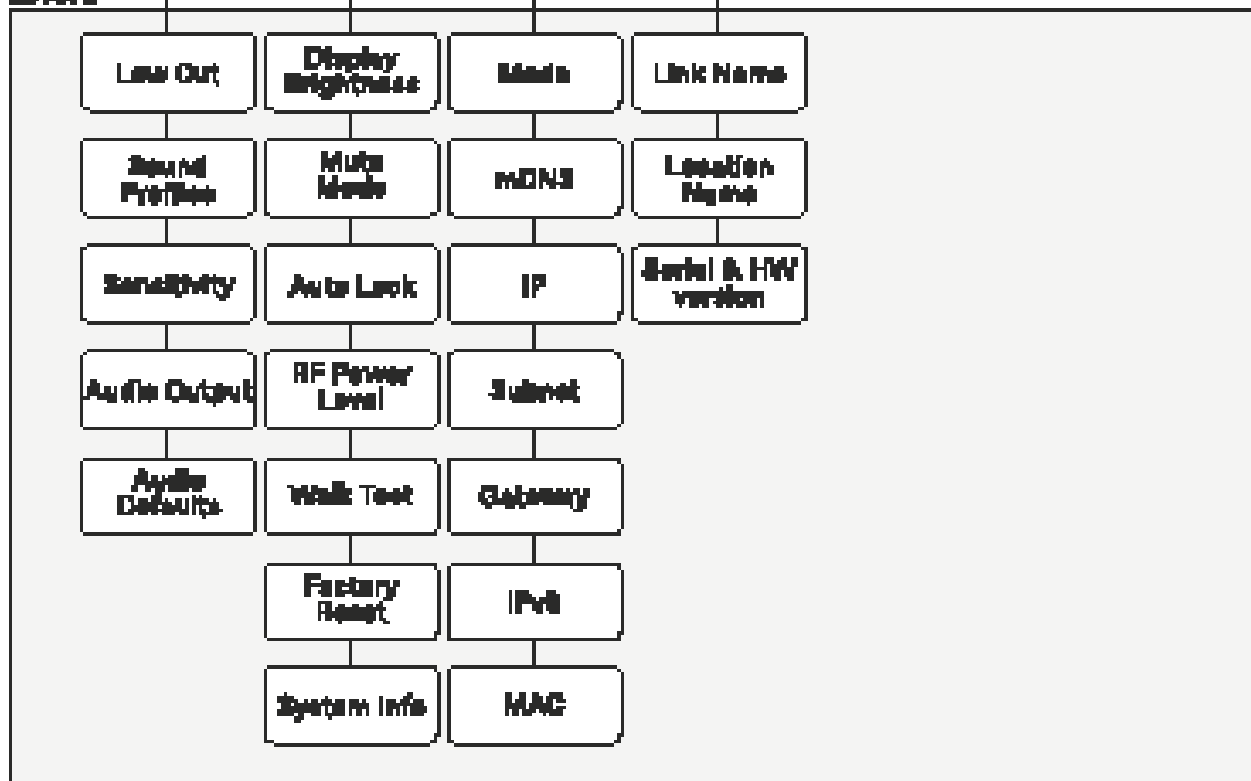
Home



Level 1



Level 2





The Audio Settings menu

The **Audio Settings** menu at menu level 1 allows you to adjust the following settings.

Low Cut

- **On:** The low cut filter is activated. Low-frequency noise is filtered out.
 - **Off:** The low cut filter is deactivated.
-

Sound Profiles

- **Off:** No sound profile is activated.
 - **Female Speech:** Recommended sound profile for female speakers.
 - **Male Speech:** Recommended sound profile for male speakers.
 - **Media:** Recommended sound profile for other audio devices.
 - **Custom:** 7-band equalizer for manually adjusting the sound settings.
-

Sensitivity

- **Automatic:** The audio sensitivity is automatically adjusted during speech.
 - **0 dB – -30 dB:** The audio sensitivity can be manually adjusted in increments of 6 dB between 0 dB and -30 dB.
-

Audio Output

- **Level:** Slider for adjusting the audio output level of the XLR socket between **Mic Level** and **Line Level**.
 - This setting does not affect the RCA output. This output always issues a line signal.
-

Audio Default

- **Yes:** Resets the audio settings (Low Cut and Sound Profiles) to the factory defaults.
 - **No:** Keeps the current audio settings.
-

The System Settings menu

The **System Settings** menu at menu level 1 allows you to adjust the following settings.



Display Brightness

- **Level:** Slider for adjusting the display brightness.
-

Mute Mode

- **Switch activated:** The **MUTE** switch of the paired transmitter is activated and can be used.
 - **Switch deactivated:** The **MUTE** switch of the paired transmitter is deactivated and cannot be used. The receiver continuously outputs audio signals.
 - **Push to talk:** Press and hold the **MUTE** switch of the paired transmitter to activate the audio signal (for SL Boundary 114-S DW and SL Tablestand 133/153-S DW only).
 - **Push to mute:** Press and hold the **MUTE** switch of the paired transmitter to mute the audio signal (for SL Boundary 114-S DW and SL Tablestand 133/153-S DW only).
-

Auto Lock

- **On:** The automatic lock mode is activated. If no button is actuated on the receiver for approx. 10 seconds, the lock mode is automatically activated.
 - Long-press the jog dial to temporarily deactivate the lock mode.
 - **Off:** The automatic lock mode is deactivated.
-

RF Power

- **Automatic:** The transmission power is automatically adjusted.
 - **Level 1 ... 5:** The transmission power can be manually reduced in 5 steps. This function is required for operation in Multi-Room Mode.
-

Walk Test

- Starts the walk test. See „Performing a walk test (reception quality)“
-

Factory Reset

- **Yes:** All settings are reset to the factory defaults.
 - **No:** The settings are retained.
-

System Info

- Displays the serial number and the current firmware version of the receiver.
-



The Network Settings menu

The **Network Settings** menu at menu level 1 allows you to adjust the following settings.

Mode

- **Automatic**: The IP address is automatically assigned using DHCP. If no DHCP server is available, the IP address is assigned by the SL Rack Receiver DW itself.
 - **Fixed IP**: The IP address has to be entered manually.
-

mDNS

- **Disabled**: Deactivates mDNS to reduce the data volume transferred across the network. This option is recommended for larger systems.
 - **Enabled**: Activates mDNS to allow for automatic device detection. This option is recommended for smaller systems with up to 30 devices.
-

IP

- Input of the IP address in **Fixed IP** mode
-

Subnet

- Input of the subnet mask in **Fixed IP** mode
-

Gateway

- Input of the gateway in **Fixed IP** mode
-

IPv6

- Displays the IPv6 address
-

MAC

- Displays the MAC address
-



The Device Identification menu

The **Device Identification** menu at menu level 1 allows you to adjust the following settings.

Link Name

- Input of the name of the radio link between the transmitter and the receiver. This name is also shown on the transmitter's display panel.

Location Name

- Input of the name of the room in which the receiver is set up.

Serial Number

- Displays the serial number and the hardware version of the receiver.
-

The Help menu

The **Help** menu at menu level 1 allows you to adjust the following settings.

Product Information

- [QR code](#) with link to the product page of SpeechLine Digital Wireless

User Manual

- [QR code](#) with link to download the instruction manual
-

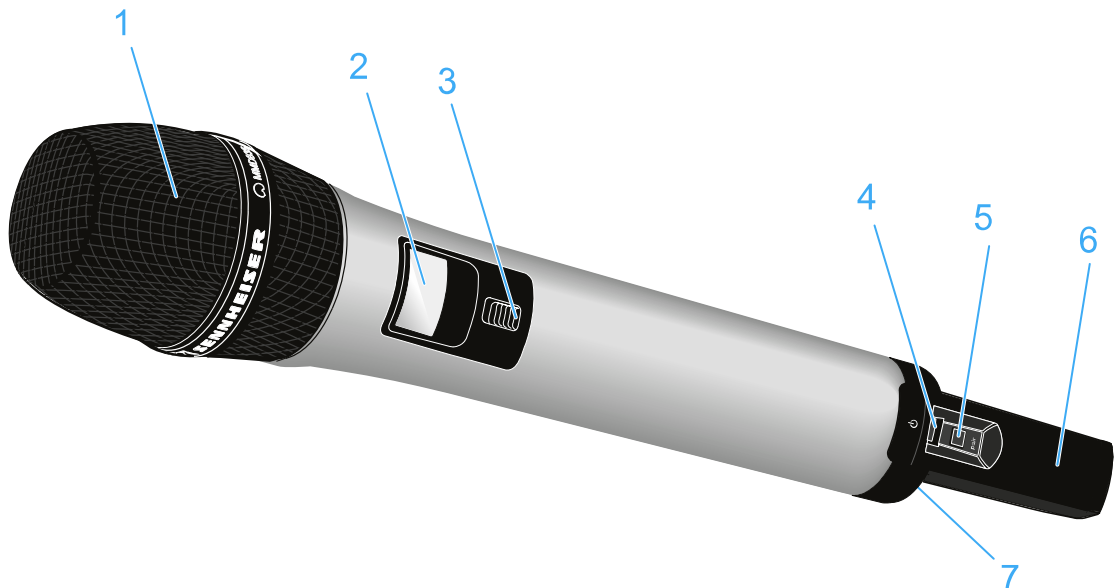


The SL Handheld DW

The handheld transmitter (SL Handheld DW) is ideal when several persons are speaking at the same time, such as in interviews or when queries come from the audience. You can replace the microphone capsule if necessary. The handheld transmitter is supplied with the high-quality MME 865-1 microphone capsule. The MME 865-1 has excellent presence and high feedback rejection and is specially designed for speech applications.

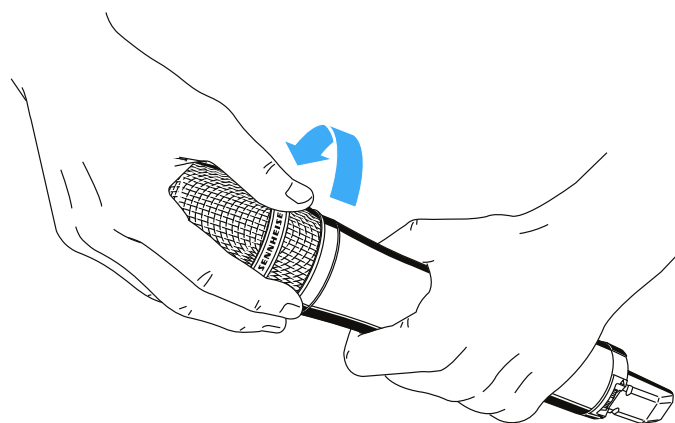
Thanks to its easy handling, the handheld transmitter is available to the speaker for immediate use, and no further instruction is necessary. The functions of the handheld transmitter have been reduced to a minimum to allow stress-free speaking during the presentation and to ensure that the speaker is not distracted by unnecessary operating options.

Product overview



1 Unscrewable microphone head with microphone capsule

The handheld transmitter is available with or without the MME 865-1 microphone capsule. The MME 865-1 has a pre-polarized condenser microphone capsule with super-cardioid pick-up patterns.



The microphone capsule can be unscrewed and replaced by one with a different pick-up pattern.



2 Display panel

- See „Displays on the display panel of the SL Handheld DW“

3 MUTE switch

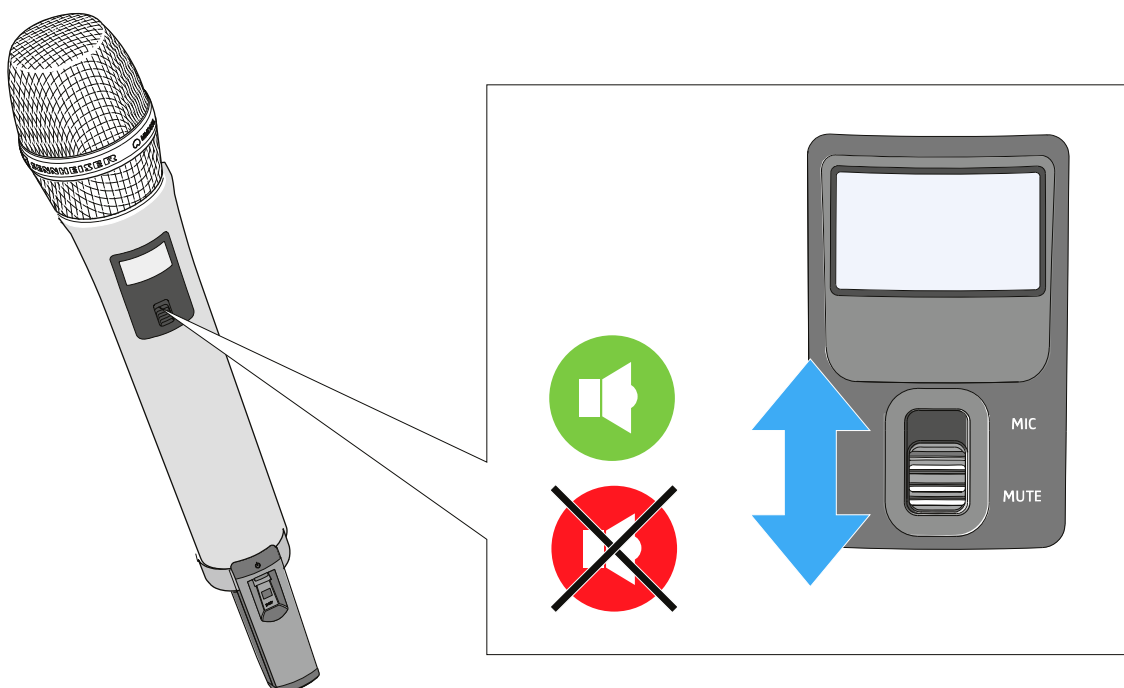
The handheld transmitter can be muted with the **MUTE** switch. This only mutes the audio signal. The radio link remains active and the transmitter remains operational.

The **MUTE** switch can be deactivated in the System Settings menu of the receiver. With the MUTE switch deactivated, the handheld transmitter cannot be muted.

To mute the handheld transmitter:

- Slide the **MUTE** switch to the position **MUTE**.

Muted appears on the display panel of the receiver. The status LED on both the handheld transmitter and the receiver lights up yellow.



To cancel the muting:

- Slide the **MUTE** switch to the position **MIC**.

4 ON/OFF button with status LED

- Short-press to switch the handheld transmitter on
- Long-press to switch the handheld transmitter off
- LED: see „Meaning of the status LED on the handheld transmitter“

5 PAIR button

- Short-press to identify the paired receiver
- Long-press to pair with a different receiver
- See „Pairing“

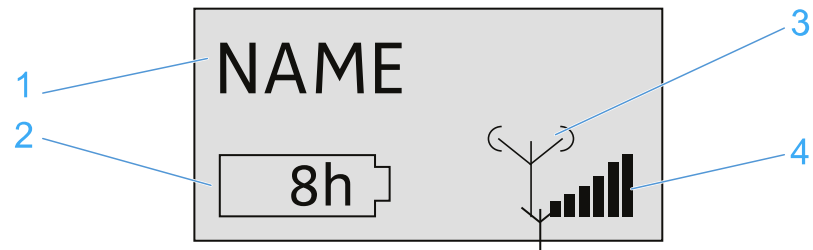
6 Antenna

7 BA 10 accupack or optional B 10 battery compartment

- See „Removing/inserting the accupack or the optional battery pack“



Displays on the display panel of the SL Handheld DW



1 Name of the radio link

- Can be entered in the **Device Identification** menu of the receiver (see „Using the operating menu of the receiver“).

2 7-step display of the accupack or battery capacity

- Graphically displays the current charge status of the accupack or the batteries.
- If you use the accupack, the remaining operating time is displayed in hours.

3 RF output power of the transmitter

- Displays the RF output power of the handheld transmitter.

4 6-step display for the RF signal level

- Displays the current level of the RF signal

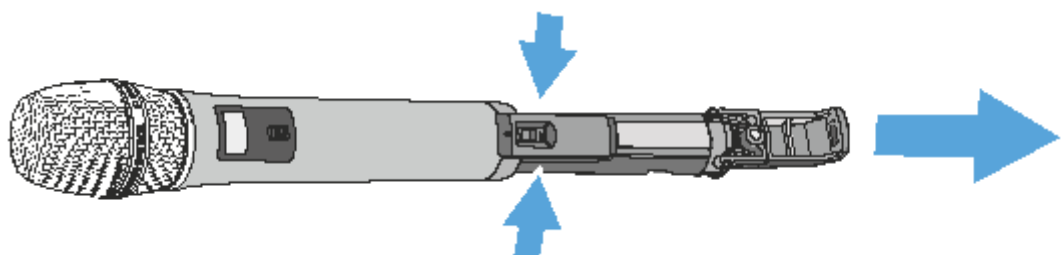
Starting up and using the handheld transmitter

Removing/inserting the accupack or the optional battery pack

You can power the handheld transmitter either with the supplied BA 10 accupack or with the optional B 10 battery compartment. The accupack must be charged before the first use. The accupack can either be charged with the optional CHG 2 or CHG 4N chargers (see „The CHG 2 charger“ or „The CHG 4N charger“) or with the supplied USB cable.

To remove the accupack or the battery compartment:

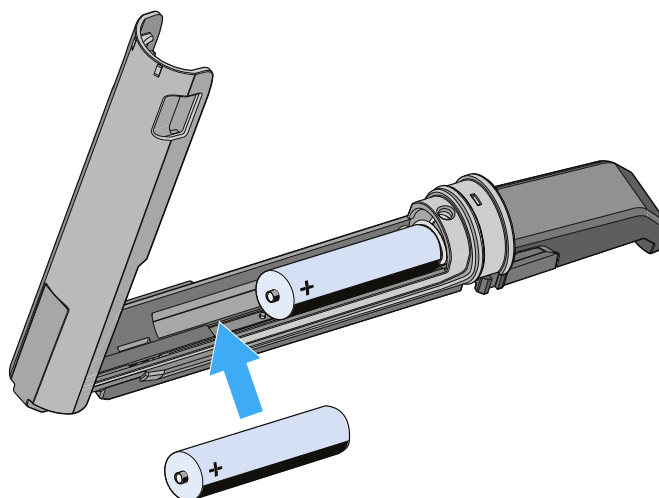
- Simultaneously press the two catches and pull the accupack or the battery compartment away from the handheld transmitter.





If you use the optional B 10 battery compartment:

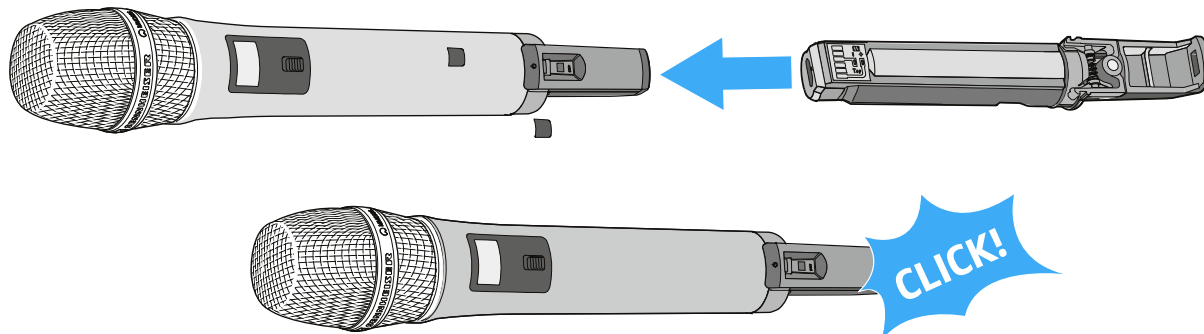
- ▷ Insert the batteries into the B 10 battery compartment.
- ▷ Please observe correct polarity when inserting the batteries.



To insert the accupack or the battery compartment:

- ▷ Slide the accupack or the battery compartment onto the handheld transmitter as shown.

The accupack or the battery compartment locks into place with an audible click.





Switching the handheld transmitter on and off

i After switch-on, the receivers and transmitters will take approx. 10 seconds to establish the radio links.

To switch the handheld transmitter on:

- Short-press the **ON/OFF** button in the direction of the transmitter body.



The home screen appears on the display panel (see „Displays on the display panel of the SL Handheld DW“). The status LED indicates the current status of the receiver (see „Meaning of the status LED on the handheld transmitter“). The radio link to the last paired receiver is established automatically as soon as the receiver is switched on.

To switch the handheld transmitter off:

- Press the **ON/OFF** button for approx. 3 seconds in the direction of the transmitter body.



The display panel and the status LED go off.



Meaning of the status LED on the handheld transmitter

lights up green:

- A radio link to the receiver is established. The accupack of the handheld transmitter is sufficiently charged.
-

flashes green:

- The **PAIR** button has been short-pressed. Paired devices are being identified.
-

flashes alternately green and red:

- The **PAIR** button has been long-pressed. The handheld transmitter establishes a radio link to a receiver whose **PAIR** button has also been long-pressed.
-

lights up yellow:

- The handheld transmitter has been muted with the **MUTE** switch. In addition, **Muted** is displayed on the display panel.
-

flashes yellow:

- The firmware is being updated.
-

lights up red:

- No radio link to a receiver. In addition, **No Link** is displayed on the display panel.
-

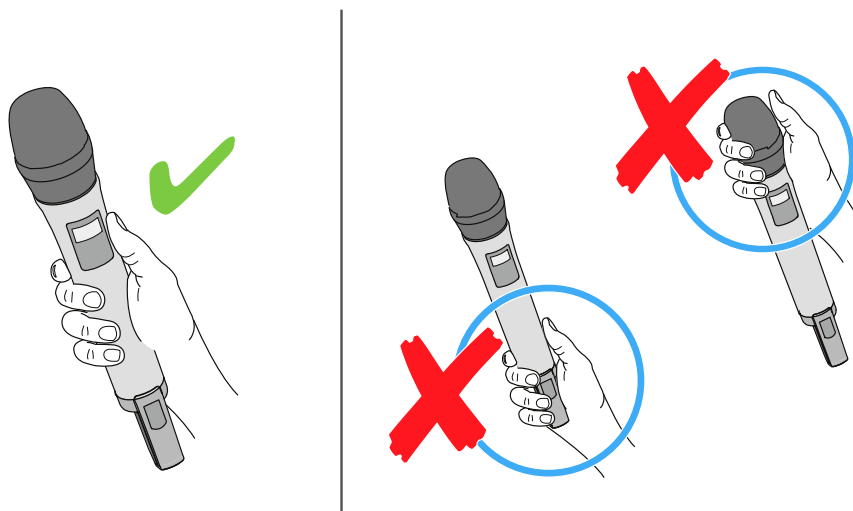
flashes red:

- The accupack capacity of the handheld transmitter is only sufficient for max. 30 minutes of operation.
-



Using the handheld transmitter

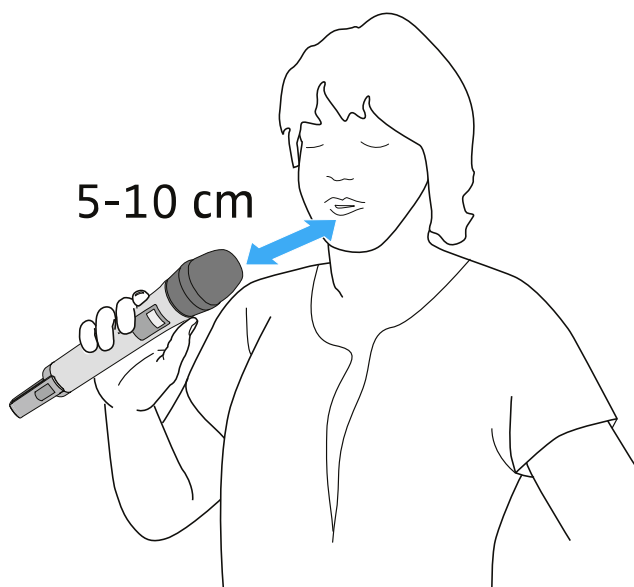
If you touch the antenna of the handheld transmitter during transmission, the transmission range will be considerably reduced. If you cover the microphone capsule during transmission, this will change the pick-up pattern of the microphone and consequently the sound.



- Only hold the handheld transmitter by its body.
- Hold the handheld transmitter approx. 5 to 10 cm in front of your mouth.

The **MME 865-1 microphone capsule** has a super-cardioid pick-up pattern.

- Hold the handheld transmitter vertically and speak into the sound inlet basket from directly above.

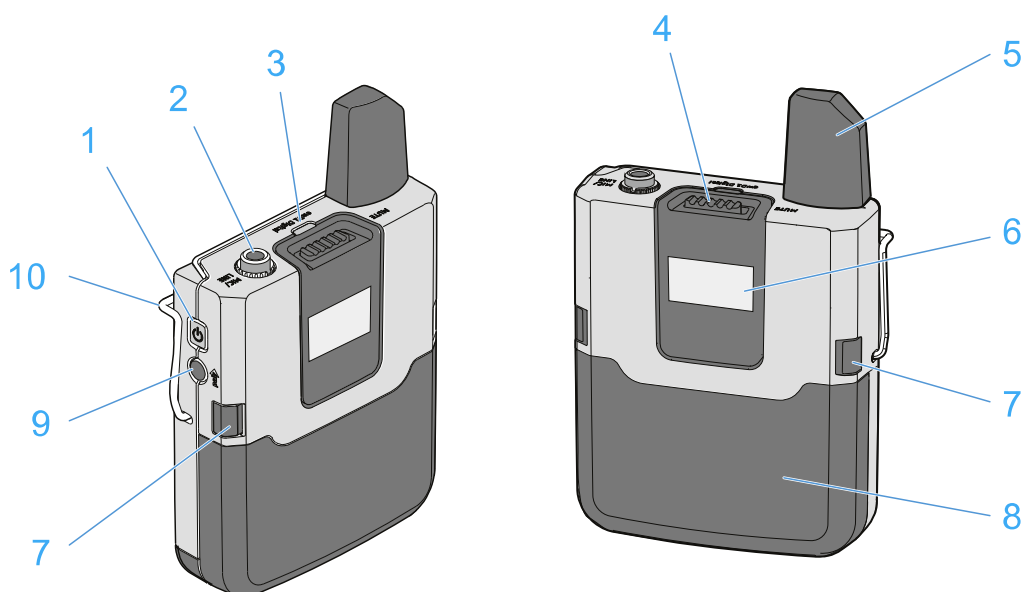




The SL Bodypack DW

The compact, robust SL Bodypack DW bodypack transmitter is compatible with all Sennheiser headset and clip-on microphones (e.g. SL Headmic 1 or MKE 1). Thanks to the bi-directional communication between the transmitter and the receiver, no settings need to be adjusted on the transmitter. The transmitter's LC display indicates the link name, the battery status and the reception quality. With the easy-to-access mute switch, the transmitter can be muted if necessary.

Product overview



1 ON/OFF button

- Short-press to switch the bodypack transmitter on
- Long-press to switch the bodypack transmitter off

2 MIC/LINE jack socket (3.5 mm)

- for connecting the clip-on or headset microphone

3 Status LED

- See „Meaning of the status LED on the bodypack transmitter“

4 MUTE switch

The bodypack transmitter can be muted with the **MUTE** switch. This only mutes the audio signal. The radio link remains active and the transmitter remains operational.

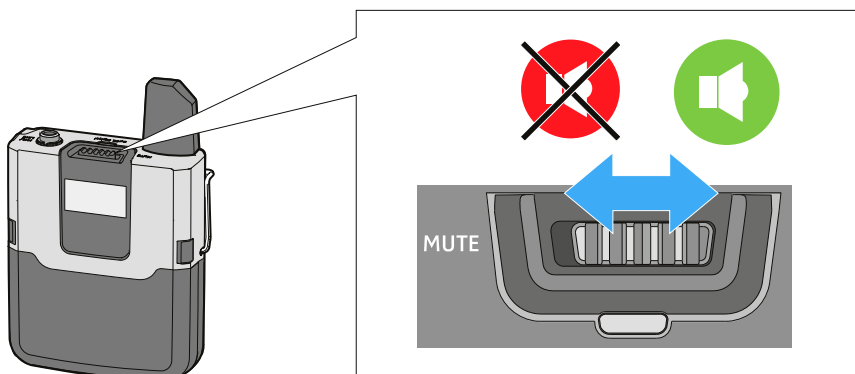
The **MUTE** switch can be deactivated in the System Settings menu of the receiver. With the MUTE switch deactivated, the bodypack transmitter cannot be muted.



To mute the bodypack transmitter:

- ▷ Slide the **MUTE** switch to the position **MUTE**.

Muted appears on the display panel of the receiver. The status LED on both the bodypack transmitter and the receiver lights up yellow.



To cancel the muting:

- ▷ Slide the **MUTE** switch to the position **MIC**.

5 Antenna

6 Display panel

- See „Displays on the display panel of the SL Bodypack DW“

7 Catches

- for releasing the accupack or the battery compartment

8 BA 30 accupack or optional B 30 battery compartment

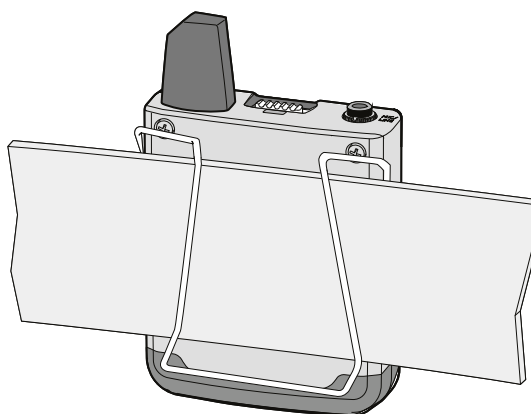
- See „Removing/inserting the accupack or the optional battery pack“

9 PAIR button

- Short-press to identify the paired transmitter
- Long-press to pair with a different transmitter
- See „Pairing“

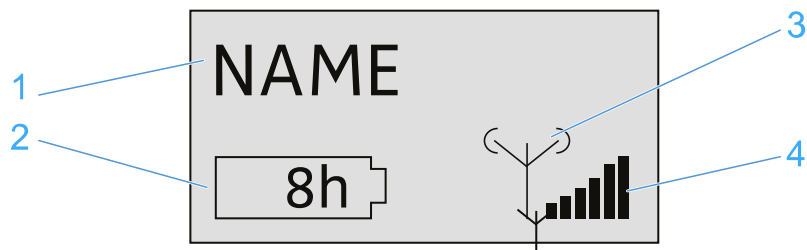
10 Belt clip

You can use the belt clip to attach the bodypack transmitter to clothing (e.g. belt, waistband). The bodypack transmitter should be attached so that the antenna is not covered, otherwise the transmission range will be reduced.





Displays on the display panel of the SL Bodypack DW



1 Name of the radio link

- Can be entered in the **Device Identification** menu of the receiver.

2 7-step display of the accupack or battery capacity

- Graphically displays the current charge status of the accupack or the batteries.
- If you use the accupack, the remaining operating time is displayed in hours.

3 RF output power of the transmitter

- Displays the RF output power of the handheld transmitter.

4 6-step display for the RF signal level

- Displays the current level of the RF signal



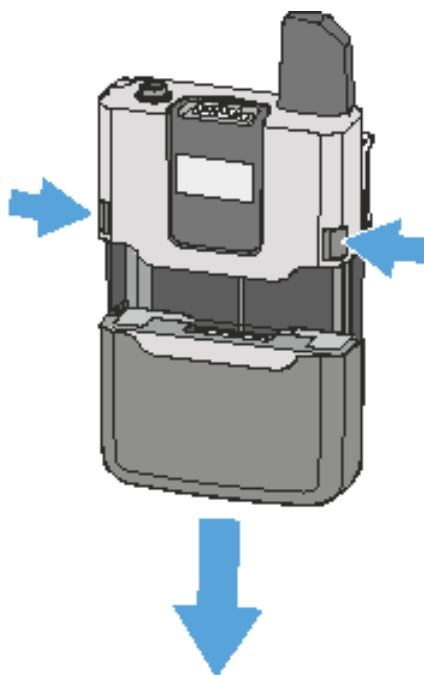
Starting up and using the bodypack transmitter

Removing/inserting the accupack or the optional battery pack

You can power the bodypack transmitter either with the supplied BA 30 accupack or with the optional B 30 battery compartment. The accupack must be charged before the first use. The accupack can either be charged with the optional CHG 2 or CHG 4N chargers (see „The CHG 2 charger“ or „The CHG 4N charger“) or with the supplied USB cable.

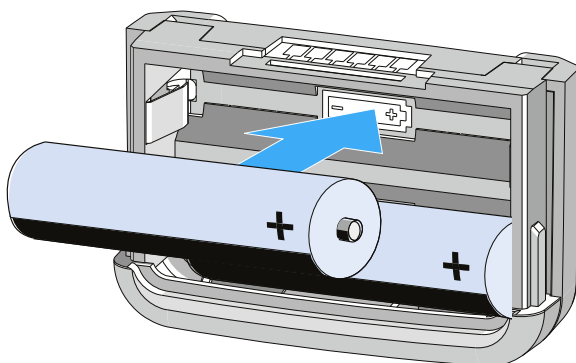
To remove the accupack or the battery compartment:

- Simultaneously press the two catches and pull the accupack or the battery compartment away from the bodypack transmitter.



If you use the optional B 10 battery compartment:

- Insert the batteries into the B 10 battery compartment.
- Please observe correct polarity when inserting the batteries.

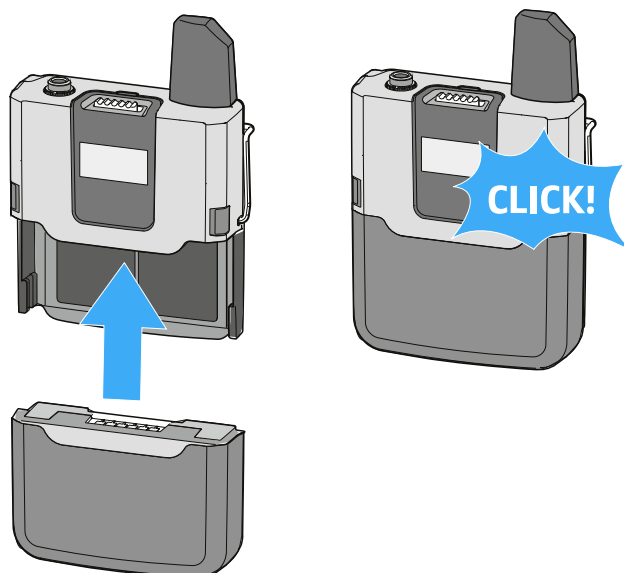




To insert the accupack or the battery compartment:

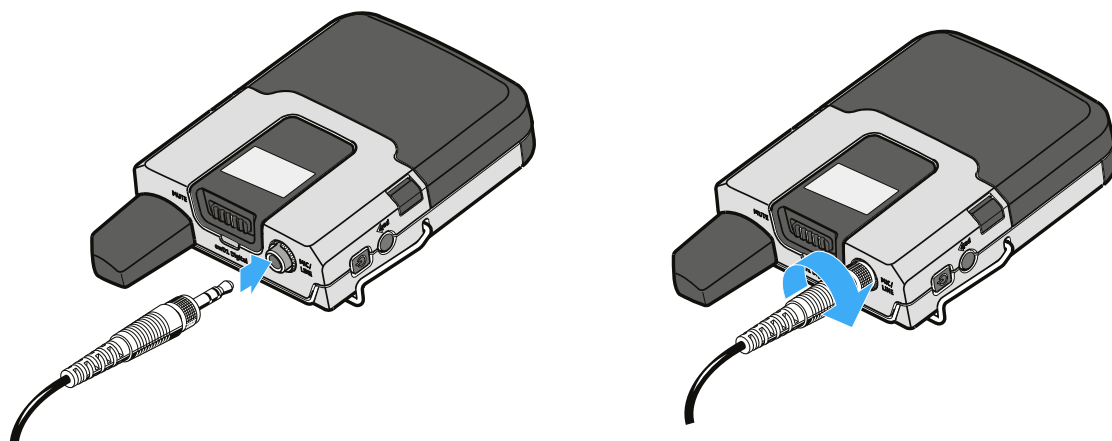
- Slide the accupack or the battery compartment onto the handheld transmitter as shown.

The accupack or the battery compartment locks into place with an audible click.



Connecting the clip-on microphone or the headset microphone to the bodypack transmitter

Only connect the clip-on microphone or the headset microphone recommended by Sennheiser. These microphones are optimized for the bodypack transmitter.



- Connect the jack plug of the clip-on microphone or headset microphone to the 3.5 mm jack socket (MIC/LINE) of the bodypack transmitter.
- Lock the jack plug by screwing down the coupling ring.

When the jack plug is not firmly locked, crackling noise can appear in the audio signal.



Alternatively, you can use a 3.5 mm jack cable to connect a line source (e.g. a smartphone, tablet or laptop) to the bodypack transmitter.

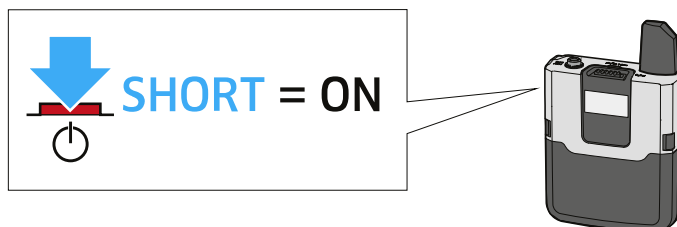


Switching the bodypack transmitter on and off

i After switch-on, the receivers and transmitters will take approx. 10 seconds to establish the radio links.

To switch the handheld transmitter on:

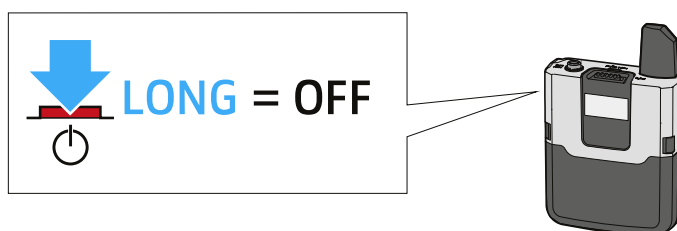
- Short-press the **ON/OFF** button.



The home screen appears on the display panel (see „Displays on the display panel of the SL Bodypack DW“). The status LED indicates the current status of the receiver (see „Meaning of the status LED on the bodypack transmitter“). The radio link to the last paired receiver is established automatically as soon as the receiver is switched on.

To switch the handheld transmitter off:

- Press the **ON/OFF** button for approx. 3 seconds.



The display panel and the status LED go off.



Meaning of the status LED on the bodypack transmitter

lights up green:

- A radio link to the receiver is established. The accupack of the bodypack transmitter is sufficiently charged.
-

flashes green:

- The **PAIR** button has been short-pressed. Paired devices are being identified.
-

flashes alternately green and red:

- The **PAIR** button has been long-pressed. The bodypack transmitter establishes a radio link to a receiver whose **PAIR** button has also been long-pressed.
-

lights up yellow:

- The bodypack transmitter has been muted with the **MUTE** switch. In addition, **Muted** is displayed on the display panel.
-

flashes yellow:

- The firmware is being updated.
-

lights up red:

- No radio link to a receiver. In addition, **No Link** is displayed on the display panel.
-

flashes red:

- The accupack capacity of the bodypack transmitter is only sufficient for max. 30 minutes of operation.
-



The SL Tablestand 133-S DW

The wireless SL Tablestand 133-S DW is designed for your speech. It is compatible with all Sennheiser XLR-3 goose neck microphones, making it ideal for podium discussions, speeches and presentations.

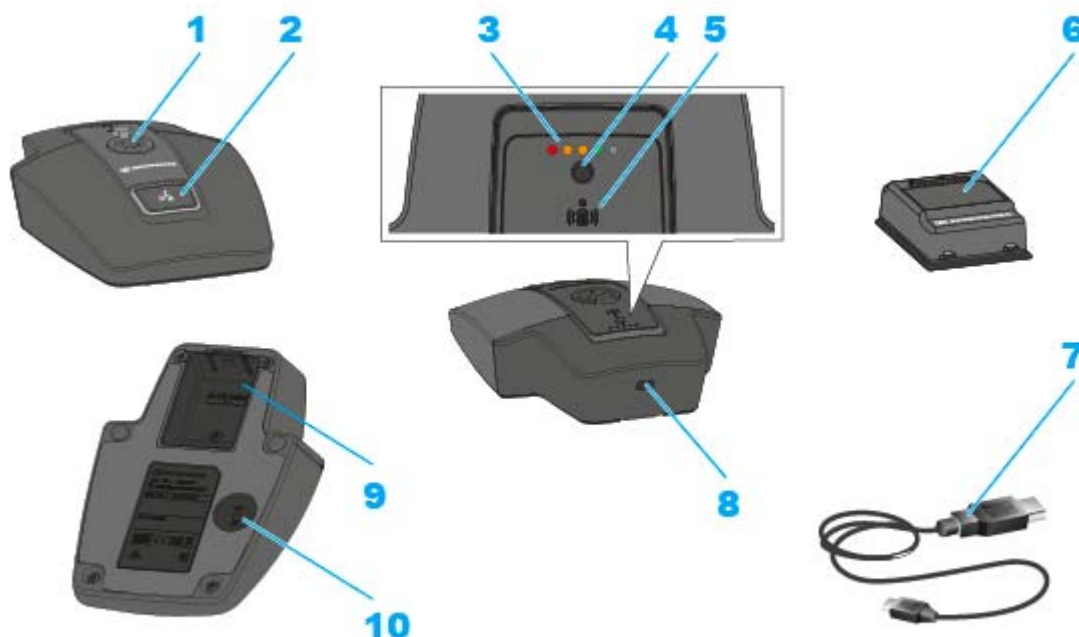
Because it is completely cable free, the SL Tablestand 133-S DW is extremely versatile and suited for a wide range of applications.

The SL Tablestand 133-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Tablestand 133-S DW is delivered with a rechargeable battery that lasts up to 10 hours.

The Sennheiser Control Cockpit software can be used to monitor and control the wireless table stand remotely.



Product overview



- 1** XLR-3 socket for connecting a goose neck microphone
- 2** ON/OFF button with mute function
- 3** Charge level LEDs
 - See „Meaning of the charge level LEDs on the table stand“
- 4** Button for displaying the charge level
- 5** Alignment LED
 - Lights up when the SL Tablestand 133-S DW is correctly positioned for charging on the CHG 2W charging base
- 6** BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 7** USB cable
- 8** Micro-USB socket
- 9** Rechargeable battery compartment for BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 10** PAIR button
 - Short-press to identify the paired receiver
 - Long-press to pair with a different receiver
 - See „Pairing“

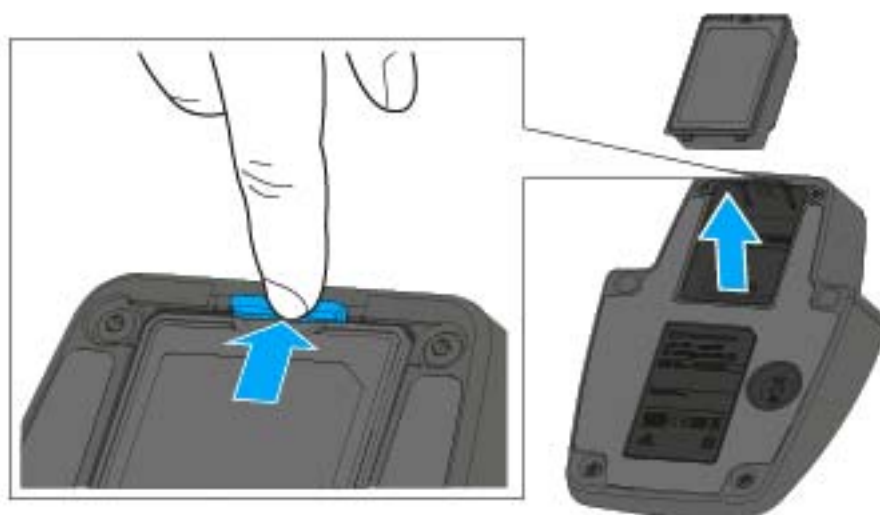


Starting up and using the table stand

Removing/inserting the BA 40 accupack

The included BA 40 accupack is used to power the table stand. The accupack must be charged before the first use. The accupack can either be charged with the optional CHG 2W charging base (see „The CHG 2W charging base“) or with the supplied USB cable.

To remove the accupack:



- Pull the unlock button away from the accupack and pull the accupack out of the compartment.

To insert the accupack:

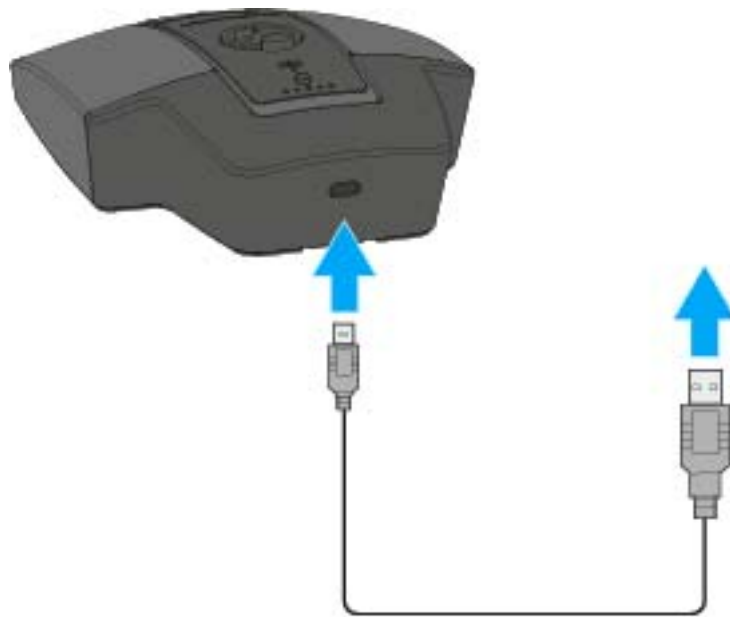


- Slide the accupack into the compartment with the correct orientation until the unlock button locks into place.
The charge level LEDs light up briefly and indicate the charge level.



Charging the table stand via USB

To charge the table stand via USB:

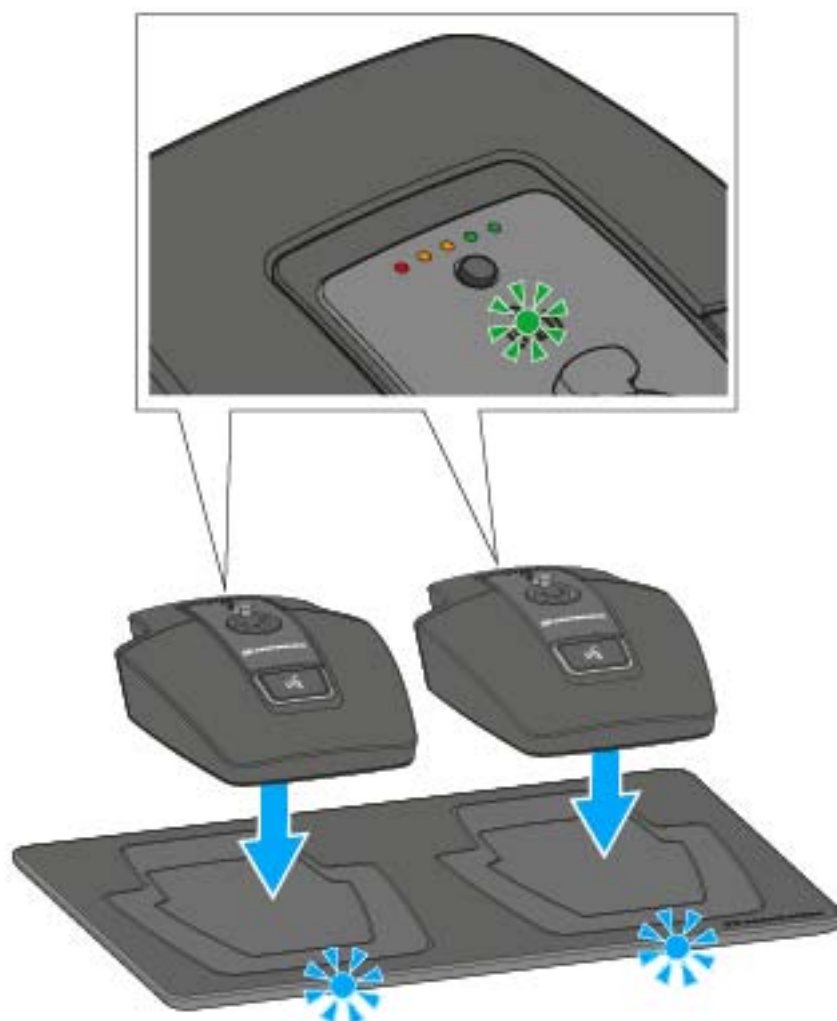


- Connect the USB cable's Micro-USB plug to the Micro-USB socket of the accupack.
- Plug the other end of the USB cable into a USB power supply unit.
The charge level LEDs indicate the charge level.



Charging the table stand using the CHG 2W wireless charging base

To charge the table stand using the CHG 2W charging base:



- Place the table stand on the CHG 2W charging base in the area marked. If the table stand is positioned correctly on the charging surface, the alignment LED lights up green. The LEDs on the CHG 2W charging base flash blue during charging.

You can find more information about the CHG 2W wireless charging base under „The CHG 2W charging base“.

Charging the table stand with a wireless Qi charging base from a third-party manufacturer

You can charge the SL Tablestand 133-S DW with any charging base that uses the wireless Qi charging standard. Place the table stand on the third-party Qi charging base. The alignment LED lights up green once the table stand is correctly positioned.

You can find more information about third-party Qi charging bases in the documentation from the respective manufacturers.



Meaning of the charge level LEDs on the table stand

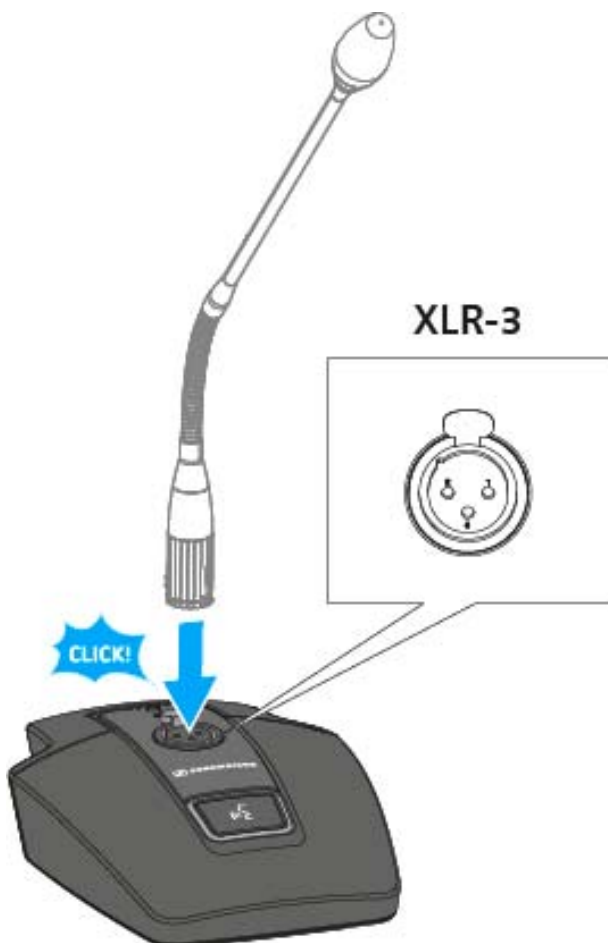
The charge level LEDs indicate the charge level of the SL Tablestand 133-S DW. At **100 % charge**, the SL Tablestand 133-S DW has an **operating time** of about **10 hours**.

	100 %
	80 %
	60 %
	40 %
	Low Batt

Connecting the goose neck microphone

We recommend using the MEG 14-40 goose neck microphone. This microphone is optimally suited for the table stand.

To connect the goose neck microphone:

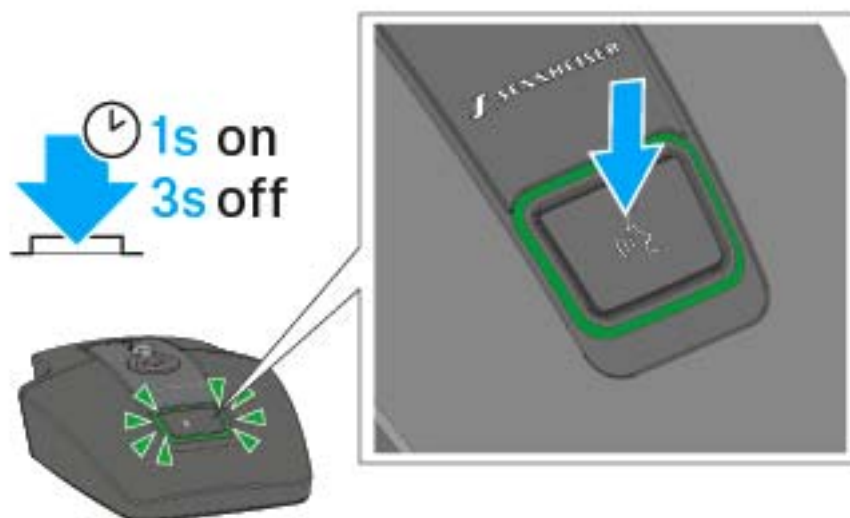


- Plug the goose neck microphone into the XLR-3 socket until it locks into place.



Switching the table stand on/off

To switch the table stand on:



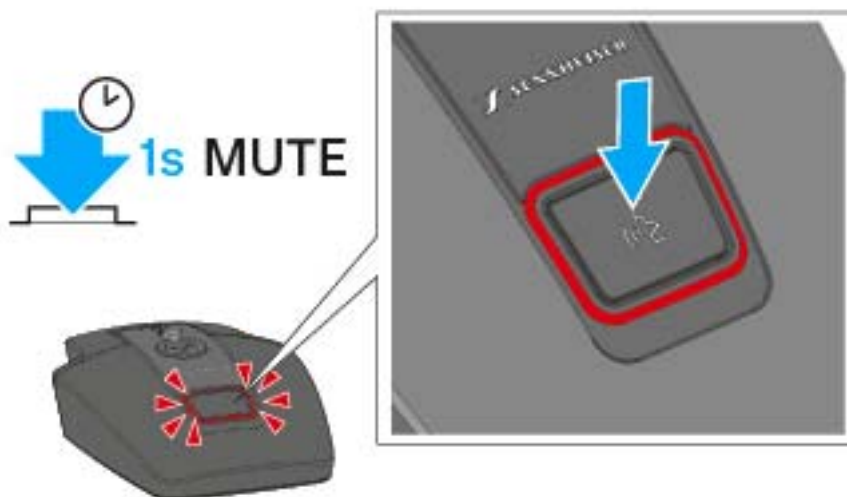
- Press the **ON/OFF** button for 1 second.
The button lights up green when a goose neck microphone is connected.

To switch the table stand off:

- Press the **ON/OFF** button for 3 seconds.

Muting the table stand

To mute the table stand:



- While the table stand is switched on and a goose neck microphone is connected, press the **ON/OFF** button for 1 second.
The button lights up red.
 - In **Push to talk** mode, the audio signal is muted by default and is only activated while the **ON/OFF** button is pressed.
 - In **Push to mute** mode, the audio signal is active by default and is only muted while the **ON/OFF** button is pressed.
 - You can set the mute mode in the menu of the SL Rack Receiver DW or using the Sennheiser Control Cockpit.



The SL Tablestand 153-S DW

The wireless SL Tablestand 153-S DW is designed for your speech. It is equipped with an XLR-5 socket to provide a hardwired connection to the MEG 14-40-L-II B goose neck microphone.

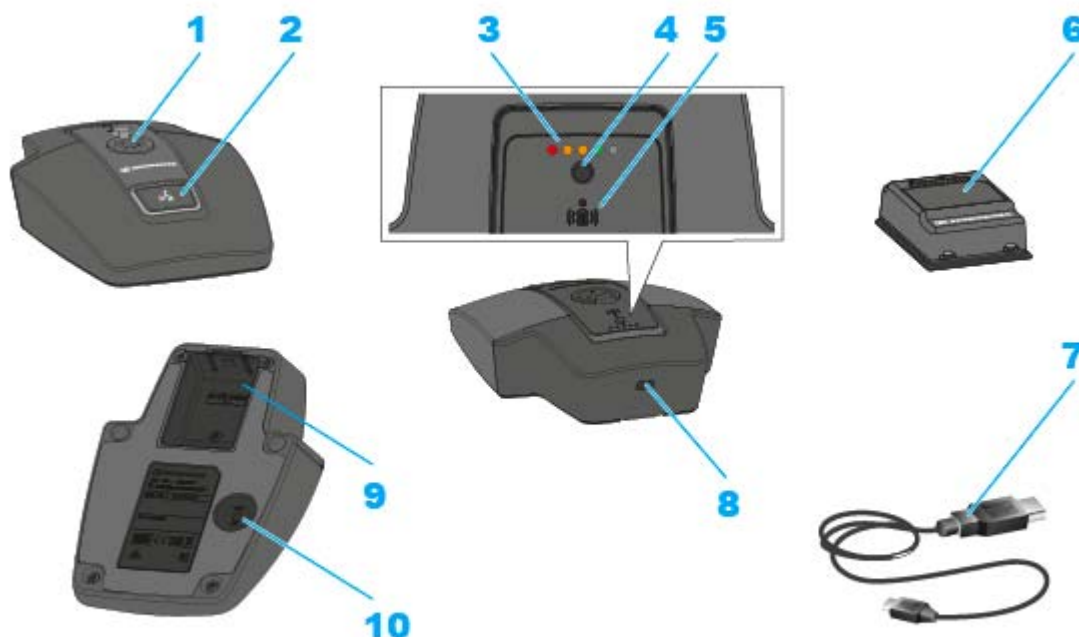
Because it is completely wireless, the SL Tablestand 153-DW is the perfect solution for ad hoc press conferences or panel discussions in any environment.

The SL Tablestand 153-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Tablestand 153-S DW is equipped with dedicated charging status LEDs to clearly show the battery life.

The Sennheiser Control Cockpit software can be used to monitor and control the SL Tablestand 153-S DW remotely.



Product overview



- 1** XLR-5 socket for connecting a goose neck microphone
- 2** ON/OFF button with mute function
- 3** Charge level LEDs
 - See „Meaning of the charge level LEDs on the table stand“
- 4** Button for displaying the charge level
- 5** Alignment LED
 - Lights up when the SL Tablestand 153-S DW is correctly positioned for charging on the CHG 2W charging base
- 6** BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 7** USB cable
- 8** Micro-USB socket
- 9** Rechargeable battery compartment for BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 10** PAIR button
 - Short-press to identify the paired receiver
 - Long-press to pair with a different receiver
 - See „Pairing“

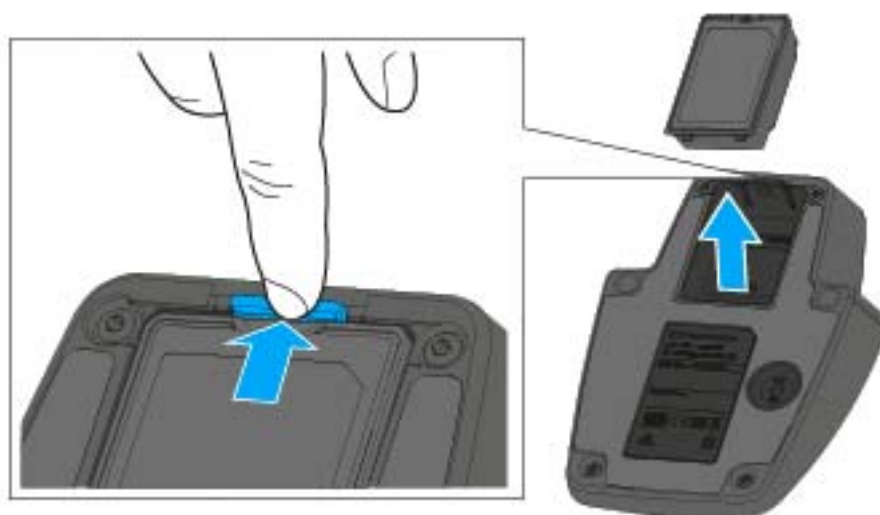


Starting up and using the table stand

Removing/inserting the BA 40 accupack

The included BA 40 accupack is used to power the table stand. The accupack must be charged before the first use. The accupack can either be charged with the optional CHG 2W charging base (see „The CHG 2W charging base“) or with the supplied USB cable.

To remove the accupack:



- Pull the unlock button away from the accupack and pull the accupack out of the compartment.

To insert the accupack:

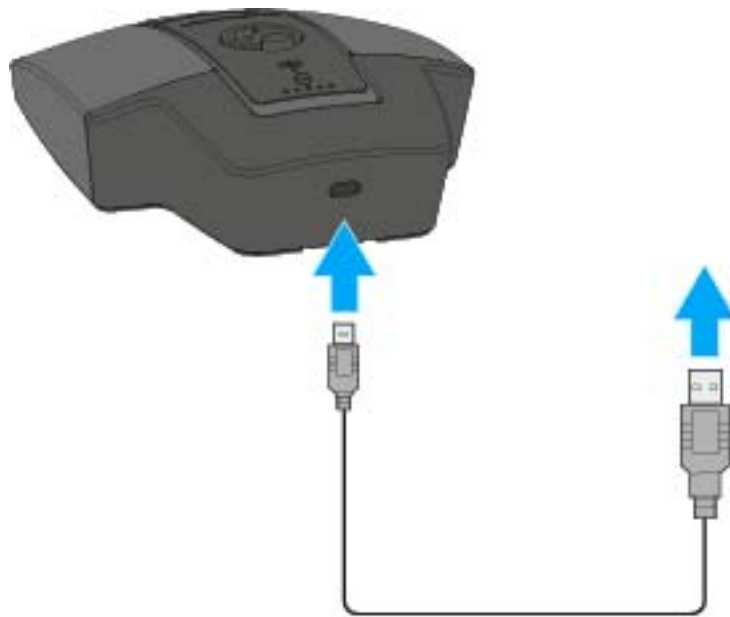


- Slide the accupack into the compartment with the correct orientation until the unlock button locks into place.
The charge level LEDs light up briefly and indicate the charge level.



Charging the table stand via USB

To charge the table stand via USB:

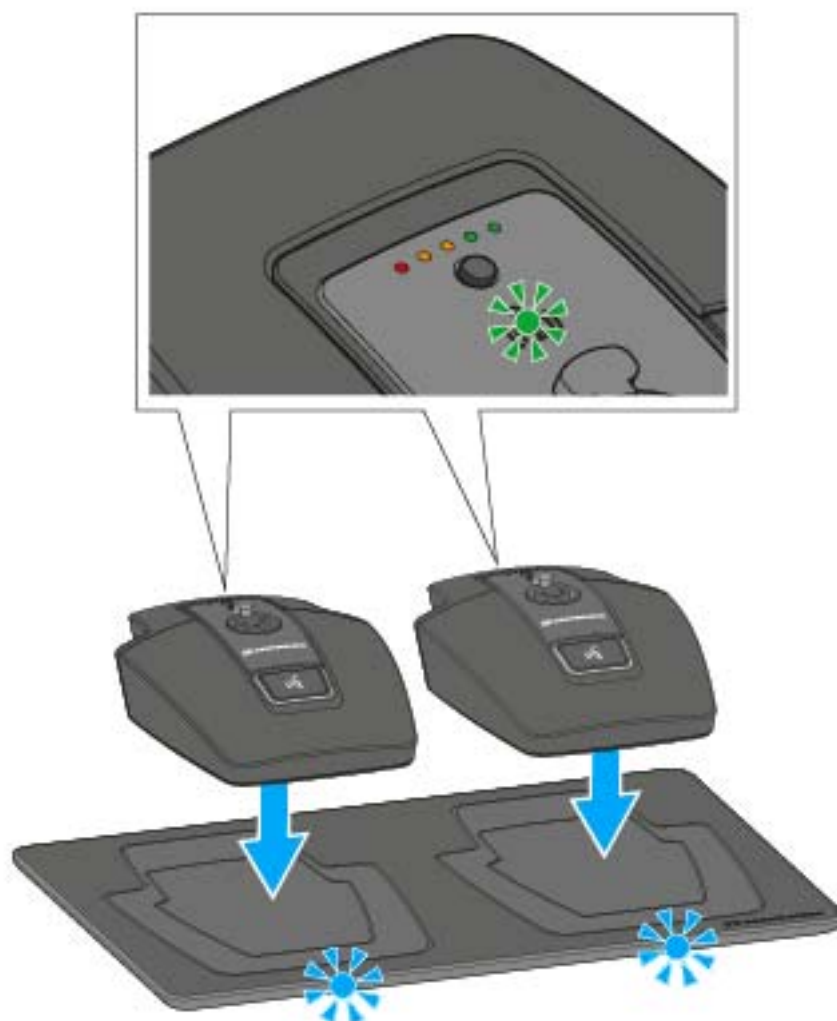


- Connect the USB cable's Micro-USB plug to the Micro-USB socket of the accupack.
- Plug the other end of the USB cable into a USB power supply unit.
The charge level LEDs indicate the charge level.



Charging the table stand using the CHG 2W wireless charging base

To charge the table stand using the CHG 2W charging base:



- Place the table stand on the CHG 2W charging base in the area marked. If the table stand is positioned correctly on the charging surface, the alignment LED lights up green. The LEDs on the CHG 2W charging base flash blue during charging.

You can find more information about the CHG 2W wireless charging base under „The CHG 2W charging base“.

Charging the table stand with a wireless Qi charging base from a third-party manufacturer

You can charge the SL Tablestand 153-S DW with any charging base that uses the wireless Qi charging standard. Place the table stand on the third-party Qi charging base. The alignment LED lights up green once the table stand is correctly positioned.

You can find more information about third-party Qi charging bases in the documentation from the respective manufacturers.



Meaning of the charge level LEDs on the table stand

The charge level LEDs indicate the charge level of the SL Tablestand 153-S DW. At **100 % charge**, the SL Tablestand 153-S DW has an **operating time** of about **10 hours**.

	100 %
	80 %
	60 %
	40 %
	 Low Batt

Connecting the goose neck microphone

We recommend using the MEG 14-40-L-II goose neck microphone. This microphone is optimally suited for the table stand.

To connect the goose neck microphone:

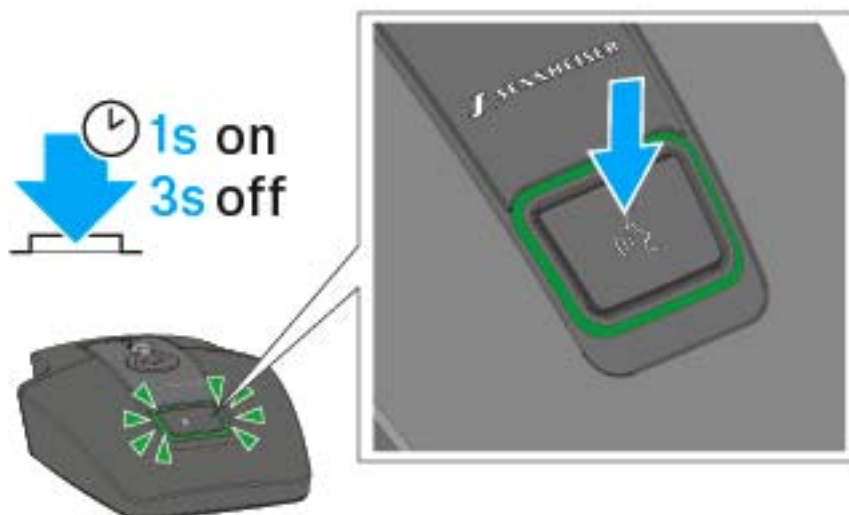


- Plug the goose neck microphone into the XLR-3 socket until it locks into place.



Switching the table stand on/off

To switch the table stand on:



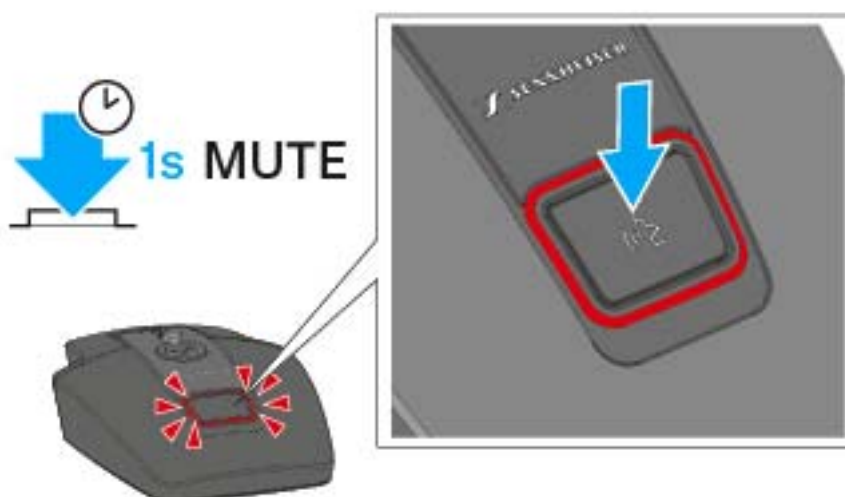
- Press the **ON/OFF** button for 1 second.
The button lights up green when a goose neck microphone is connected.

To switch the table stand off:

- Press the **ON/OFF** button for 3 seconds.

Muting the table stand

To mute the table stand:



- While the table stand is switched on and a goose neck microphone is connected, press the **ON/OFF** button for 1 second.
The button lights up red when the audio signal is muted.
 - In **Push to talk** mode, the audio signal is muted by default and is only activated while the **ON/OFF** button is pressed.
 - In **Push to mute** mode, the audio signal is active by default and is only muted while the **ON/OFF** button is pressed.
 - You can set the mute mode in the menu of the SL Rack Receiver DW or using the Sennheiser Control Cockpit.



The SL Boundary 114-S DW

The wireless SL Boundary 114-S DW boundary microphone is designed for your speech.

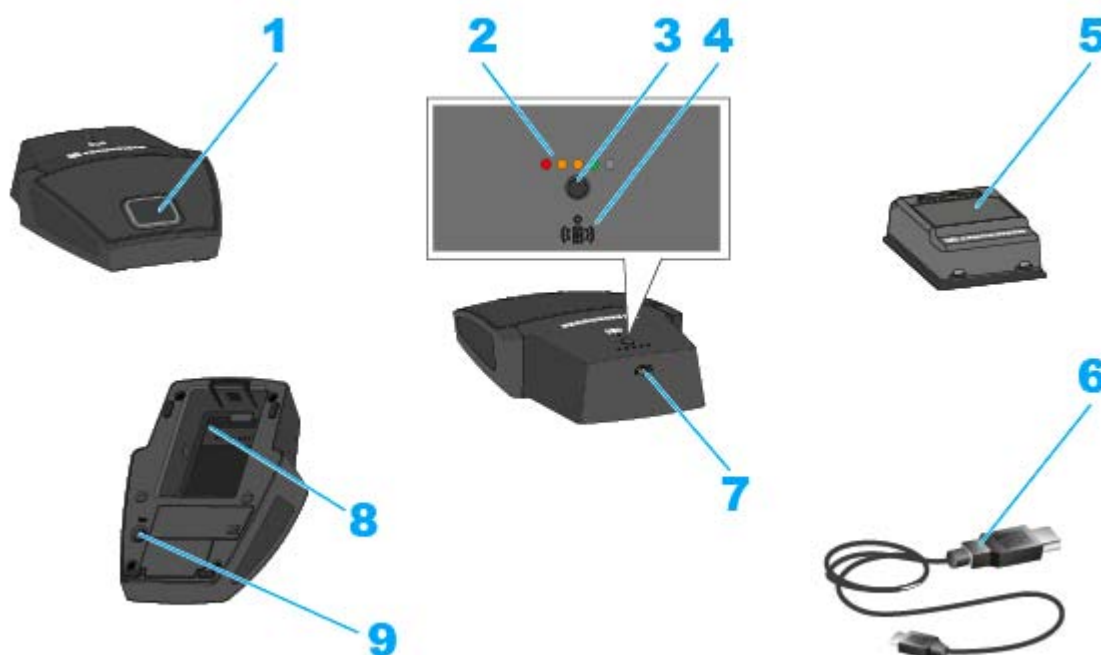
Because it is completely cable free, the SL Boundary 114-S DW is extremely versatile and suited for a wide range of applications.

The SL Boundary 114-S DW can be charged either wirelessly or via USB. The CHG 2W wireless charging base for two mobile devices is available separately. The SL Boundary 114-S DW is delivered with a rechargeable battery that lasts up to 10 hours.

The Sennheiser Control Cockpit software can be used to monitor and control the wireless boundary microphone remotely.



Product overview



- 1** ON/OFF button with mute function
- 2** Charge level LEDs
 - See „Meaning of the charge level LEDs on the boundary microphone“
- 3** Button for displaying the charge level
- 4** Alignment LED
 - Lights up when the SL Boundary 114-S DW is correctly positioned for charging on the CHG 2W charging base
- 5** BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 6** USB cable
- 7** Micro-USB socket
- 8** Rechargeable battery compartment for BA 40 accupack
 - See „Removing/inserting the BA 40 accupack“
- 9** PAIR button
 - Short-press to identify the paired receiver
 - Long-press to pair with a different receiver
 - See „Pairing“

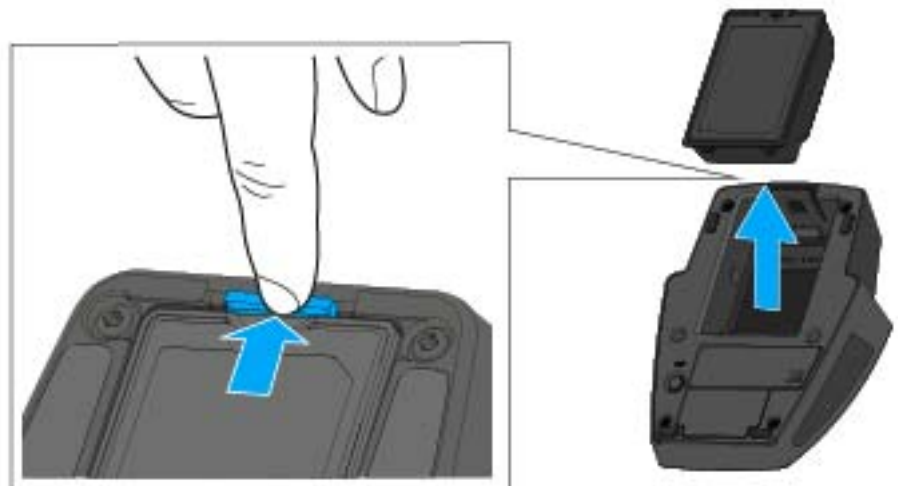


Starting up and using the boundary microphone

Removing/inserting the BA 40 accupack

The included BA 40 accupack is used to power the boundary microphone. The accupack must be charged before the first use. The accupack can either be charged with the optional CHG 2W charging base (see „The CHG 2W charging base“) or with the supplied USB cable.

To remove the accupack:



- Pull the unlock button away from the accupack and pull the accupack out of the compartment.

To insert the accupack:



- Slide the accupack into the compartment with the correct orientation until the unlock button locks into place.
The charge level LEDs light up briefly and indicate the charge level.



Charging the boundary microphone via USB

To charge the boundary microphone via USB:

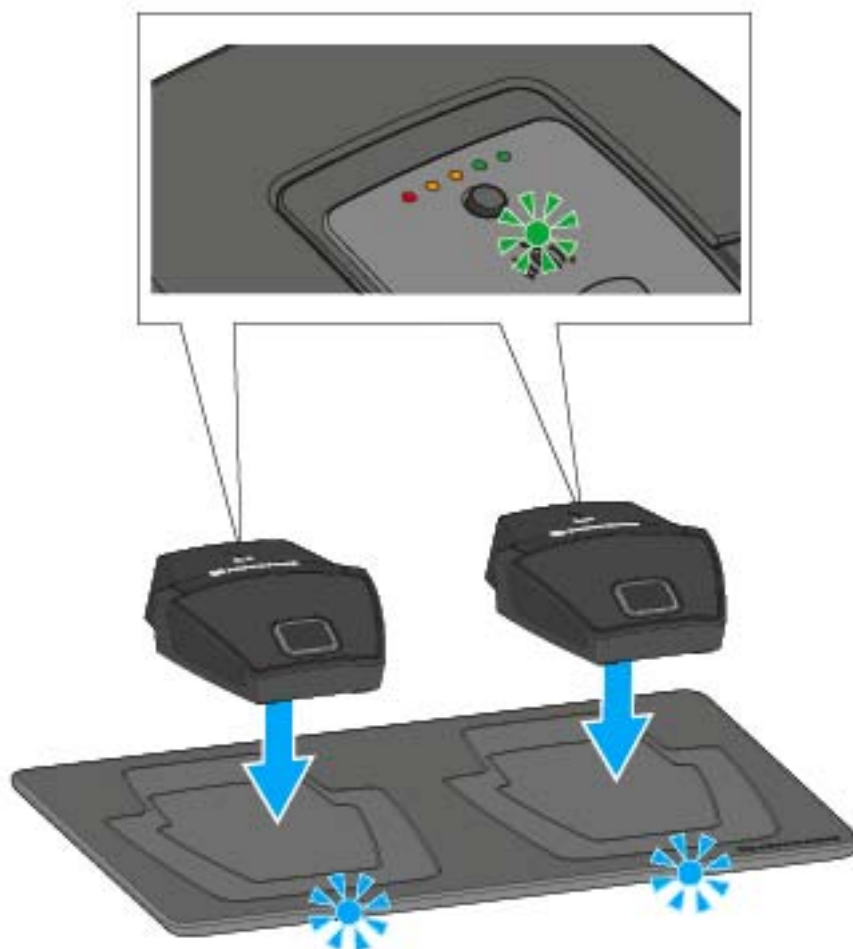


- Connect the USB cable's Micro-USB plug to the Micro-USB socket of the boundary microphone.
- Plug the other end of the USB cable into a USB power supply unit.
The charge level LEDs indicate the charge level.



Charging the boundary microphone using the CHG 2W wireless charging base

To charge the boundary microphone using the CHG 2W charging base:



- ▷ Place the boundary microphone on the CHG 2W charging base in the area marked.

If the boundary microphone is positioned correctly on the charging surface, the alignment LED lights up green.

The LEDs on the CHG 2W charging base flash blue during charging.

You can find more information about the CHG 2W wireless charging base under „The CHG 2W charging base“.

Charging the boundary microphone with a wireless Qi charging base from a third-party manufacturer

You can charge the SL Boundary 114-S DW with any charging base that uses the wireless Qi charging standard. Place the boundary microphone on the third-party Qi charging base. The alignment LED lights up green once the table stand is correctly positioned.

You can find more information about third-party Qi charging bases in the documentation from the respective manufacturers.



Meaning of the charge level LEDs on the boundary microphone

The charge level LEDs indicate the charge level of the SL Boundary 114-S DW. At **100 % charge**, the SL Boundary 114-S DW has an **operating time** of about **10 hours**.

	100 %
	80 %
	60 %
	40 %
	 Low Batt

Switching the boundary microphone on/off

To switch the boundary microphone on:



- Press the **ON/OFF** button for 1 second.

To switch the boundary microphone off:

- Press the **ON/OFF** button for 3 seconds.



Muting the boundary microphone

To mute the boundary microphone:



- ▷ If the boundary microphone is on, press the **ON/OFF** button for 1 second.
The button lights up red.
 - In **Push to talk** mode, the audio signal is muted by default and is only activated while the **ON/OFF** button is pressed.
 - In **Push to mute** mode, the audio signal is active by default and is only muted while the **ON/OFF** button is pressed.
 - You can set the mute mode in the menu of the SL Rack Receiver DW or using the Sennheiser Control Cockpit.



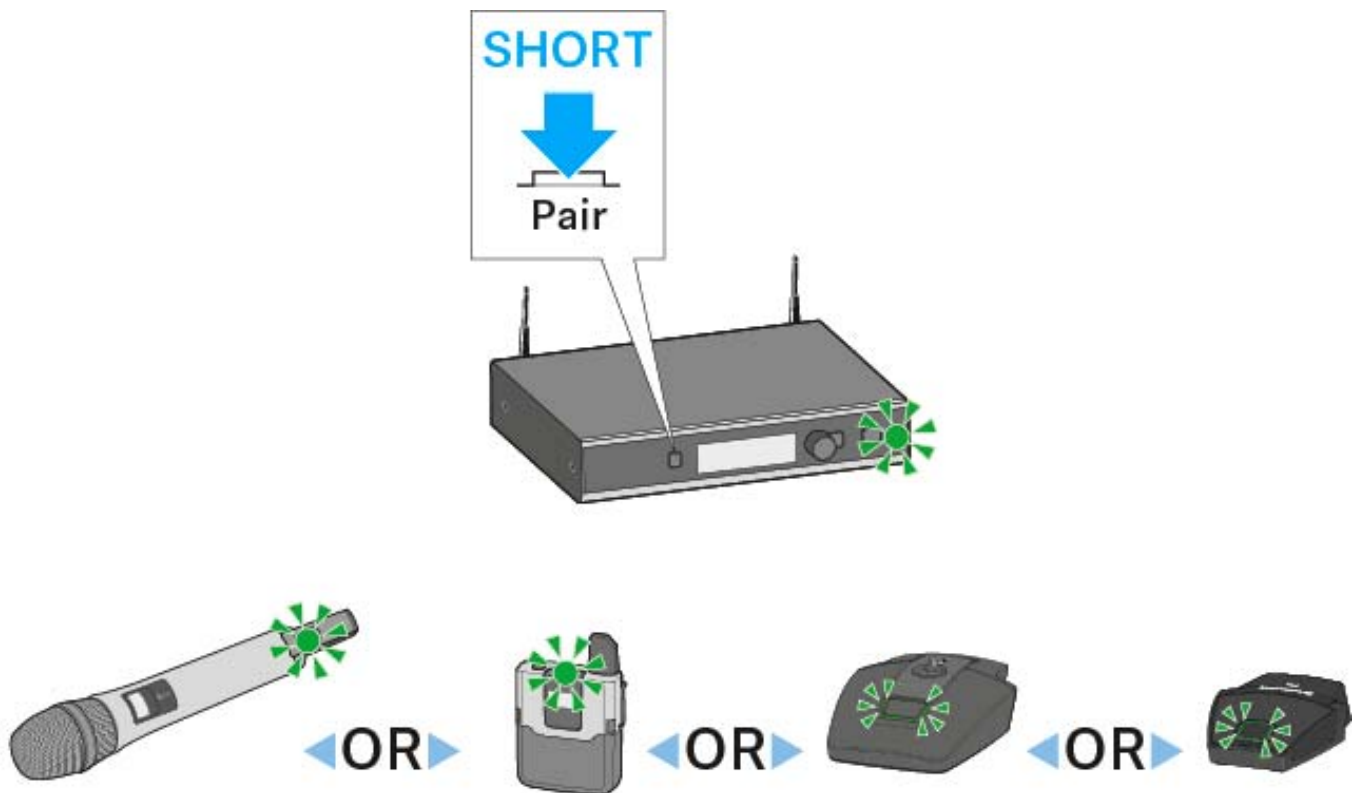
Pairing

The receiver and the transmitter of a set are factory pre-paired and therefore ready for immediate use. The radio link is automatically established as soon as both devices are switched on and within the transmission range. You can disconnect the existing radio link and establish new radio links to two other devices. Only two devices, i.e. one transmitter and one receiver, can be paired with each other. Previous device pairings are not remembered.

Identifying paired devices

You can perform a pairing identification to see which transmitter is paired with which receiver.

- ▷ Switch on all devices whose pairing you want to identify.
- ▷ Short-press the **PAIR** button of the receiver or of the transmitter.



Identify appears on the display panel of the receiver. The message **This is *Name*** appears on the display panel of the transmitter. The status LEDs of the paired devices flash green for 10 seconds. If the receiver or the transmitter is not paired or if the paired device is not switched on or out of range, the display panel changes back to the home screen after 10 seconds.



Pairing a receiver with a transmitter

To establish a new radio link between a receiver and a transmitter, proceed as follows:

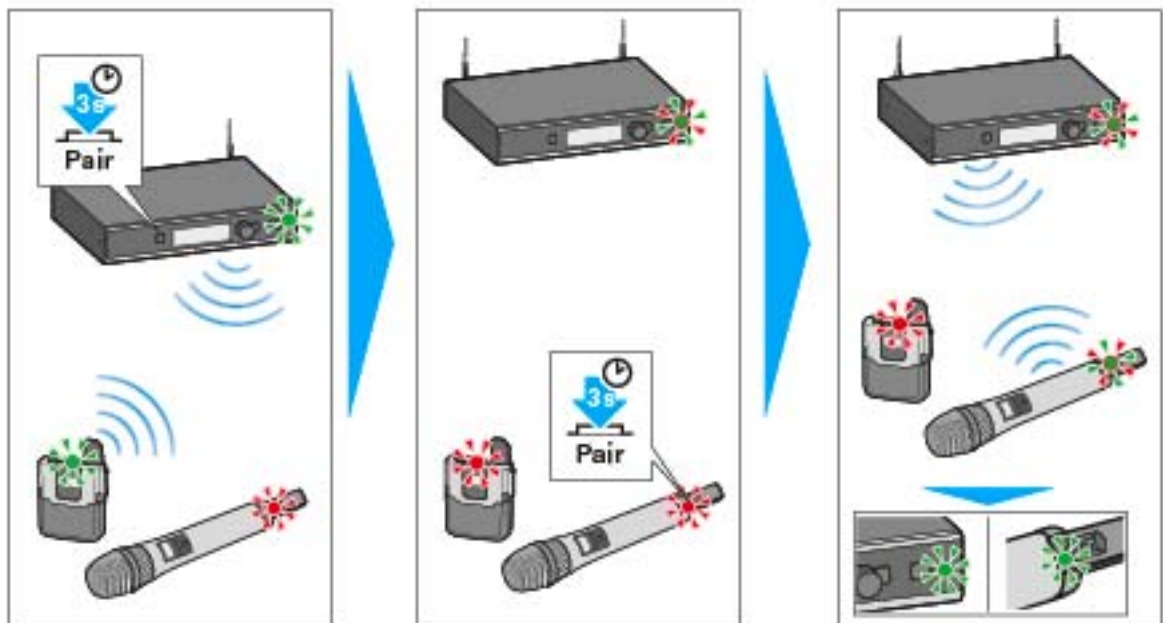
- Long-press the **PAIR** button of the receiver until its status LED flashes alternately green and red.

First, **Identify** appears on the display panel of the receiver. The **Pairing** message then appears. Any existing radio link is now disconnected. You now have 90 seconds to establish a radio link with a new transmitter.

- Long-press the **PAIR** button of the corresponding transmitter until its status LED flashes alternately green and red.

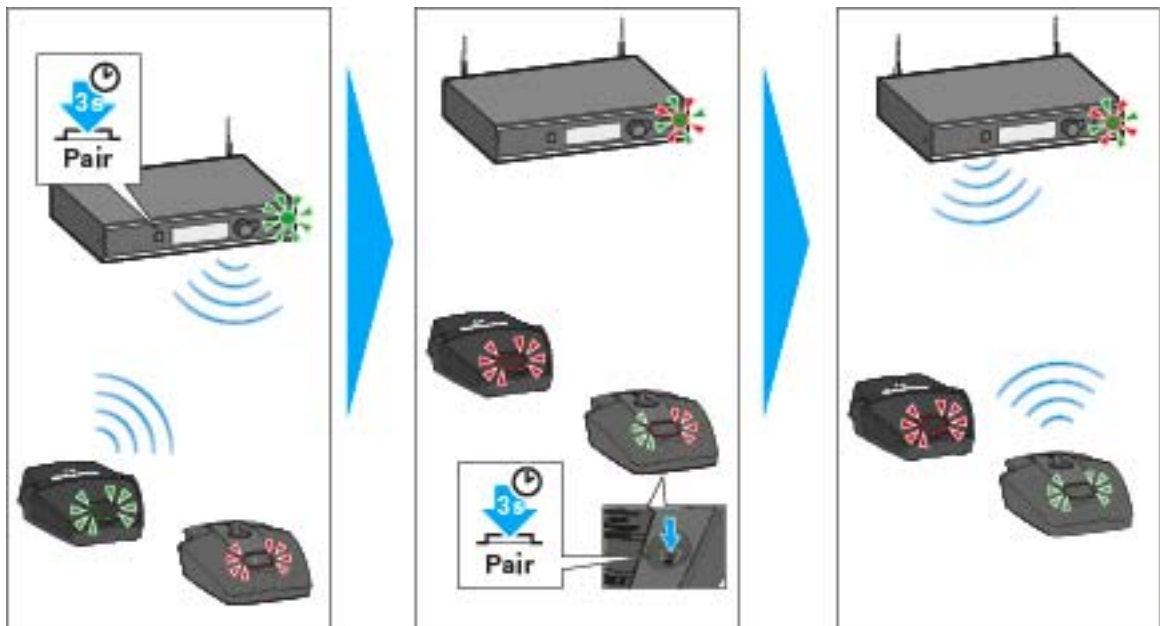
The **Press pair on receiver** message appears on the display panel of the transmitter (SL Handheld DW and SL Bodypack DW only).

Pairing for both **SL Handheld DW** and **SL Bodypack DW**.





Pairing for **SL Tablestand 133-S/153-S DW** and **SL Boundary 114-S DW**:



✓ Once the radio link is successfully established, **Paired** appears on the display panel of both the receiver and the transmitter (only for SL Handheld DW and SL Bodypack DW) and the status LEDs on the transmitter and the receiver light up green.

⚠ If no radio link was successfully established, **Pairing failed** appears on the display panel of both the receiver and the transmitter (only for SL Handheld DW and SL Bodypack DW) and the status LEDs on the transmitter and the receiver light up red.

If you try to pair devices that are running incompatible firmware versions, a message appears on the display panel prompting you to update the firmware of the transmitter.

If you update the firmware now, the transmitter and the receiver will be paired afterwards.

If you do not update the firmware, the transmitter and the receiver will not be paired and **FW mismatch** appears on the display panel of the receiver.

We recommend updating the receiver firmware first and then the transmitter firmware.



Performing a walk test (reception quality)

The **Walk Test** menu item allows you to check the reception quality of your radio links within the operating environment. By performing a walk test, you can verify the range and coverage of the radio link.

To perform the walk test:

- Switch on the transmitter and the receiver of the radio link you want to check.
- In addition, switch on all other devices that you want to use in the operating environment.
- From the receiver's **System Settings** menu, select the **Walk Test** menu item.

The RF signal level display appears on the display panel of both the receiver and the transmitter.



- Walk the operating environment with the transmitter.
The RF signal level display on the display panel of both the receiver and the transmitter is continuously updated.
- Check the RF signal level display for more detailed information on the reception quality:

 Good reception quality is indicated by a tick.

If the tick is missing, reception quality is sufficient.



If reception quality is or was compromised at any position, this is indicated by a warning triangle.

The warning triangle remains displayed on the display panel even if reception quality improves afterwards.

NO LINK: If the radio link breaks down completely, the background of the display panel changes back and forth between light and dark and **No Link** appears on the display panel.

- Press the **ESC** button on the receiver to end the walk test.



If the result of the walk test is not satisfying, you can take the following remedial measures:

- If possible, reposition the receivers so that there is always a direct line of sight between the receiving antennas and the paired transmitter.
- If possible, remove obstacles between the transmitter and the receiving antennas.
- When rack mounting receivers, you should mount their rod antennas to the front of the rack using the GA 4 rack-mount kit.
- If you have manually adjusted the transmission power, you may have to readjust it via the receiver's operating menu (System Settings -> RF Power). You can find more information under „Multi-room mode“.



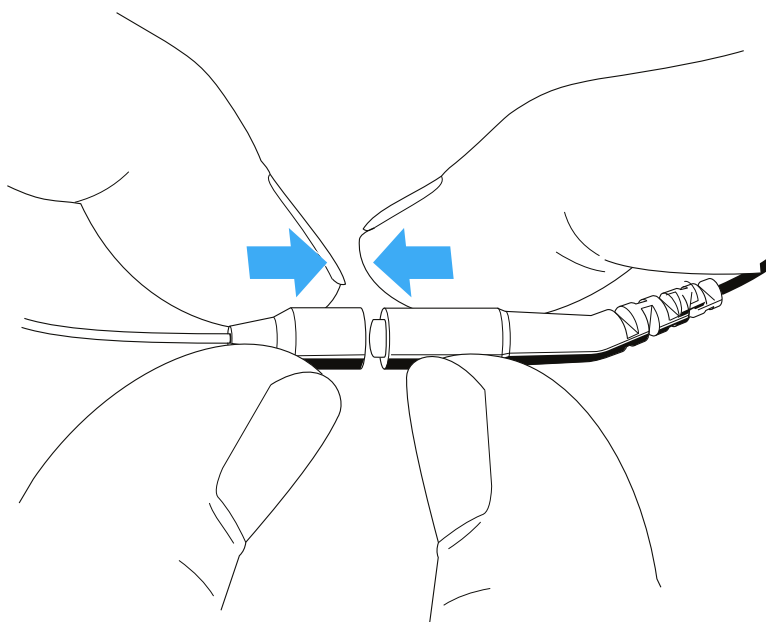
The SL Headmic 1 headset microphone

The SL Headmic 1 is a high-quality omni-directional condenser headset microphone designed for professional “hands free” applications. Its adjustable neckband is visually unobtrusive and very comfortable to wear. The SL Headmic 1 is available in black and beige. The pick-up pattern is omni-directional.

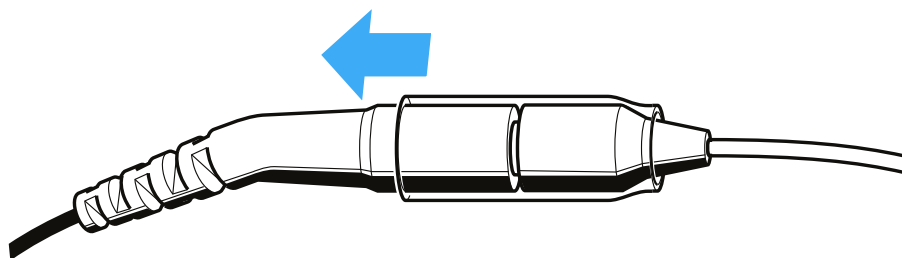
Preparing the SL Headmic 1 for use

To connect the cable to the headset microphone:

- ▷ Plug the connector into the socket.



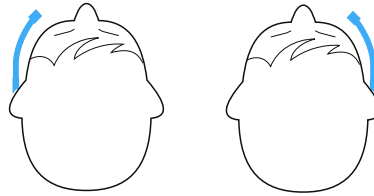
- ▷ Slide the silicone tube onto the connector.





Changing the microphone position (left/right)

You can wear the microphone on either the left or right side.



The neckband has a total of five clips which are designed so that the microphone boom can be worn on either side of the mouth.

ATTENTION

Damage to the microphone boom

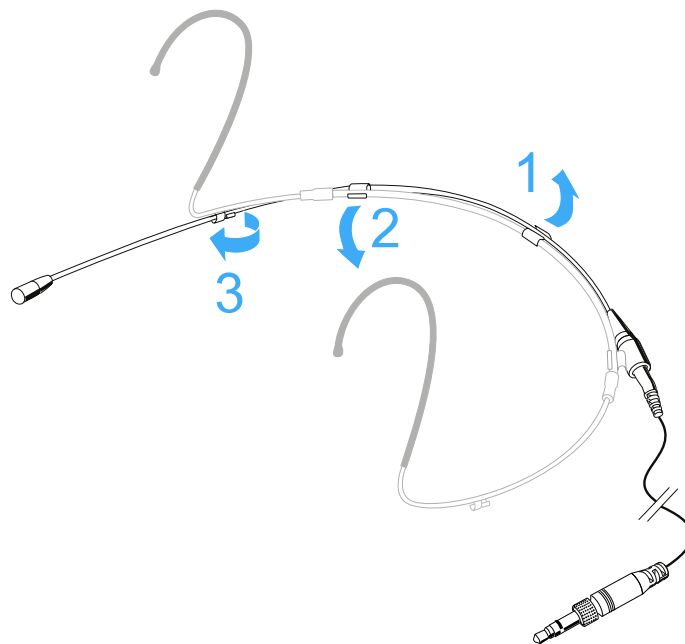
The microphone boom can break or be impaired in its function when you bend or turn it. Frequent alternate bendings close to the microphone capsule can also damage the microphone boom and possibly reduce the adjustability of the microphone.

- Only adjust the microphone boom as described in this chapter.

Modifying the microphone boom

To remove the microphone boom:

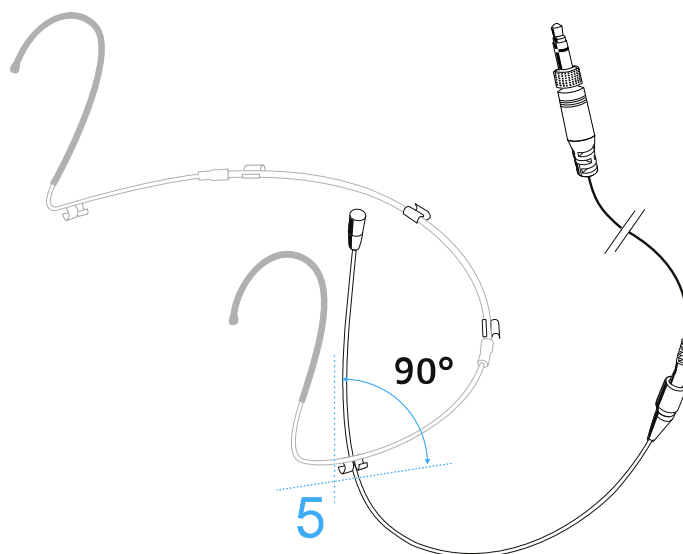
- First remove the microphone boom from the two clips **1** and **2**.
- By turning the microphone boom, remove it from the third clip **3**.



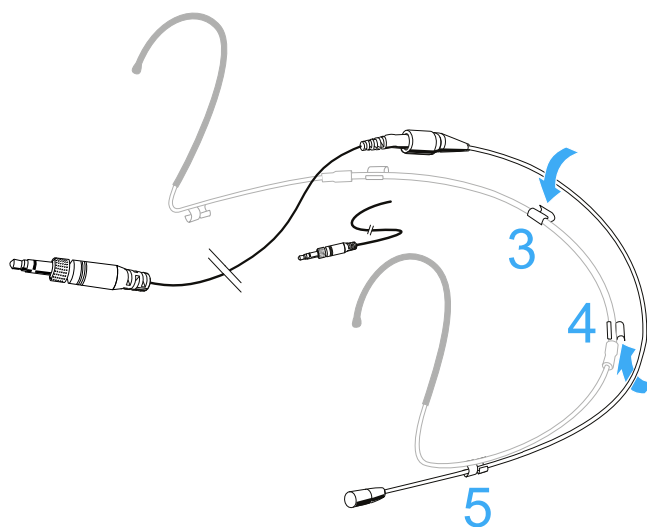


To reattach the microphone boom:

- ▷ First attach the end of the microphone boom where the microphone capsule is fitted to the clip **5** on the desired side of the neckband.



- ▷ Press the microphone boom into the two clips **3** and **4**.





Adjusting the microphone boom and the neckband

For best possible comfort and optimum fit of the headset microphone, the neckband padding and the microphone boom have to be adjusted to properly fit your head.

ATTENTION

Damage to the microphone boom

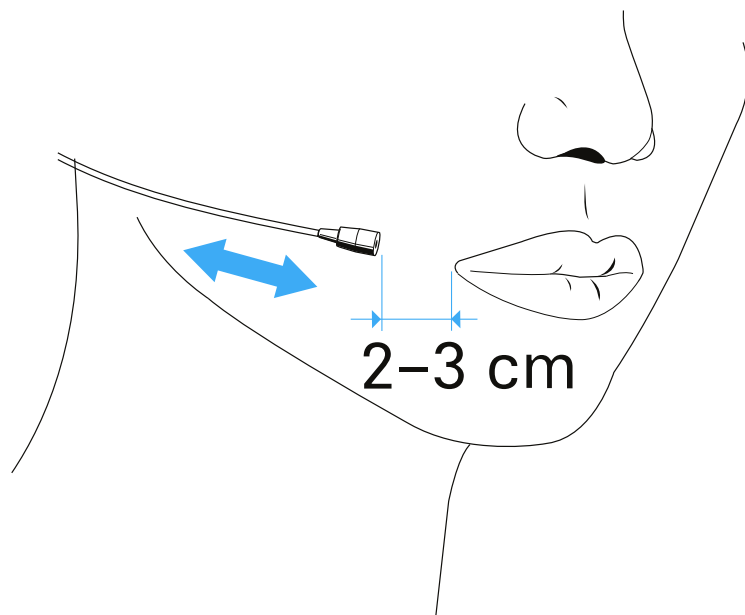
The microphone boom can break or be impaired in its function when you bend or turn it.

Positioning the microphone towards the corner of the mouth

To individually position the microphone:

- Slide the microphone boom forward or backward in the clips so that the microphone is 2 to 3 cm from the corner of your mouth.

The further away the microphone is from the mouth, the less treble is picked up.

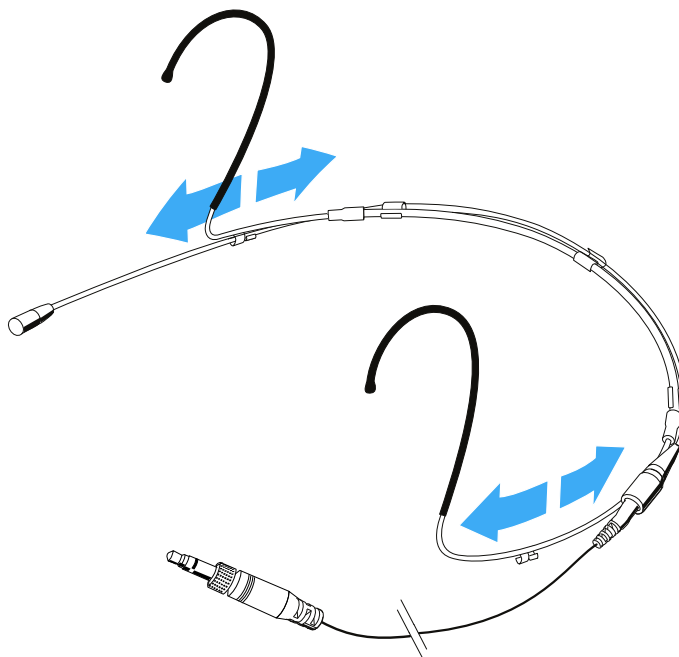




Adjusting the neckband

The neckband is adjustable in width and ensures an optimum fit.

- ▷ Change the length of the neckband by moving the ear hooks until a snug but comfortable fit is achieved.





Using the frequency response caps

The **MZC 2** frequency response cap enables you to change the sensitivity of the microphone in the presence range. The MZC 2 gives a treble boost of 4 dB. Use this cap if the microphone cannot be positioned close to the mouth, if the sound is too muffled or if you want to increase the speech intelligibility.

- Slide the **MZC 2** frequency response cap over the microphone capsule until you hear it click into place.



An additional frequency response cap (**MZC 1**) is available as an accessory. The MZC 1 ensures a treble boost of 2 dB.

- Slide the **MZC 1** frequency response cap over the microphone capsule until you hear it click into place.





Using the windshield

The **SL MZW 1** windshield reduces wind noise by 10 dB.

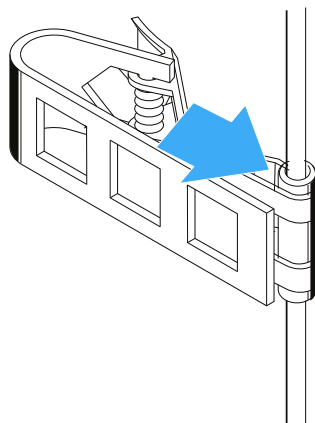
- Slide the **SL MZW 1** windshield over the **MZC 2** frequency response cap.



Attaching the connection cable to clothing

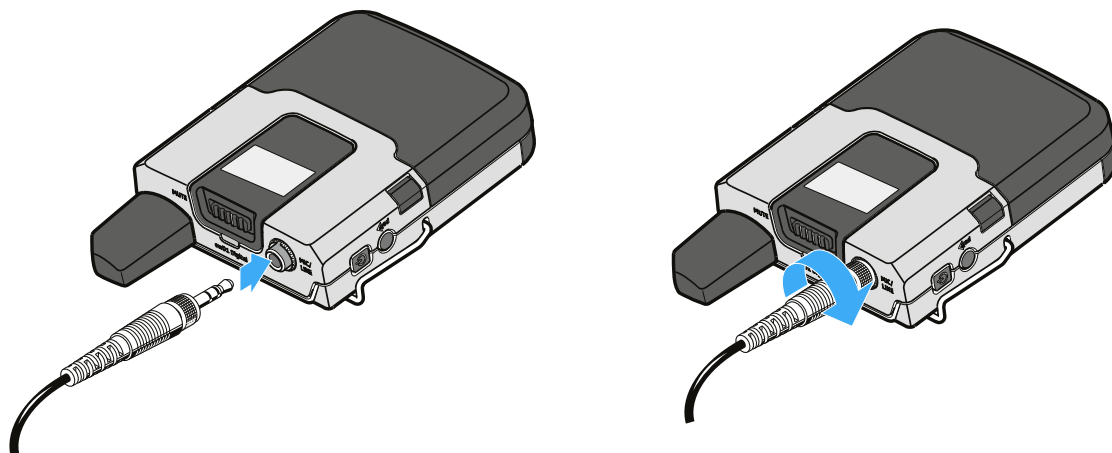
The **MZQ 02** clip is available as an accessory.

- Press the connection cable into the cable gland on the **MZQ 02** clip.
- Attach the cable clip to the rear of your collar.
- Run the connection cable under your clothing.





Connecting the SL Headmic 1 to the SL Bodypack DW



- ▷ Connect the jack plug of the SL Headmic 1 to the 3.5 mm jack socket (MIC/LINE) of the bodypack transmitter.
- ▷ Lock the jack plug by screwing down the coupling ring.
When the jack plug is not firmly locked, crackling noise can appear in the audio signal.



The MKE 1 clip-on microphone

The MKE 1 is a high-quality, sub-miniature, sweat-resistant clip-on condenser microphone. It features excellent sound quality and rugged design. The frequency response curve has been optimized for stage, studio and reporting applications (ENG).

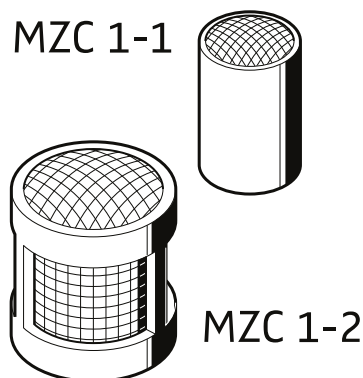
The MKE 1 is fitted with a very thin (only 1 mm) yet extremely rugged cable, making this microphone an ideal partner for all live sound applications.

Features

- Sub-miniature microphone
- High maximum sound pressure level
- Wide frequency response with adaptable treble response
- Thin (only 1 mm), flexible and rugged cable, low in handling noise
- Very insensitive to the penetration of sweat due to a special protective “umbrella” diaphragm

Treble boost

Your microphone is supplied with two different frequency response caps. These caps allow you to adjust the treble response of the microphone.



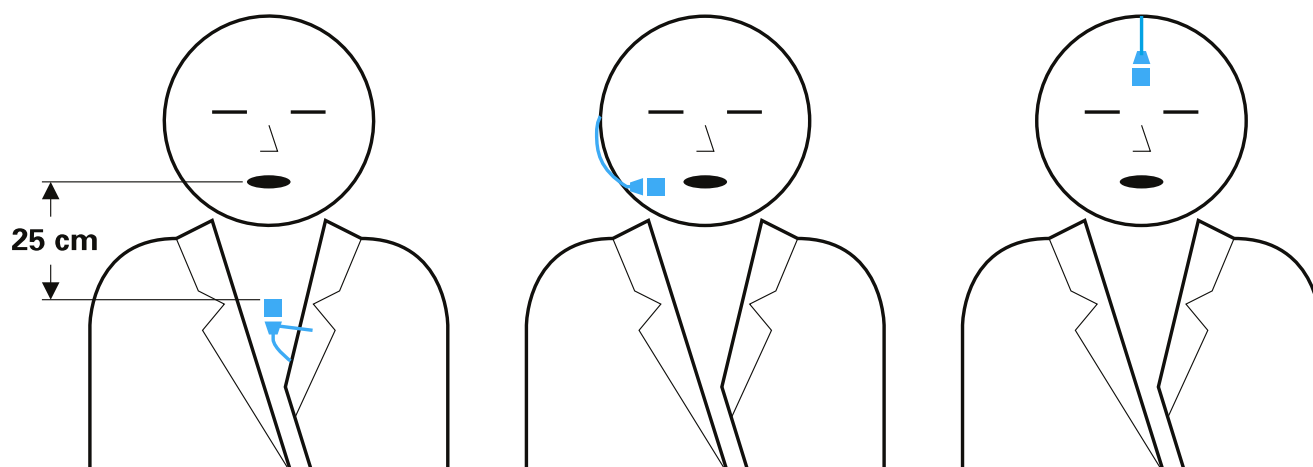
In addition, the large frequency response cap attenuates wind noise by approx. 15 dB and provides an extended protection against the ingress of moisture.

- Slip the cap of your choice onto the microphone until it locks into place.



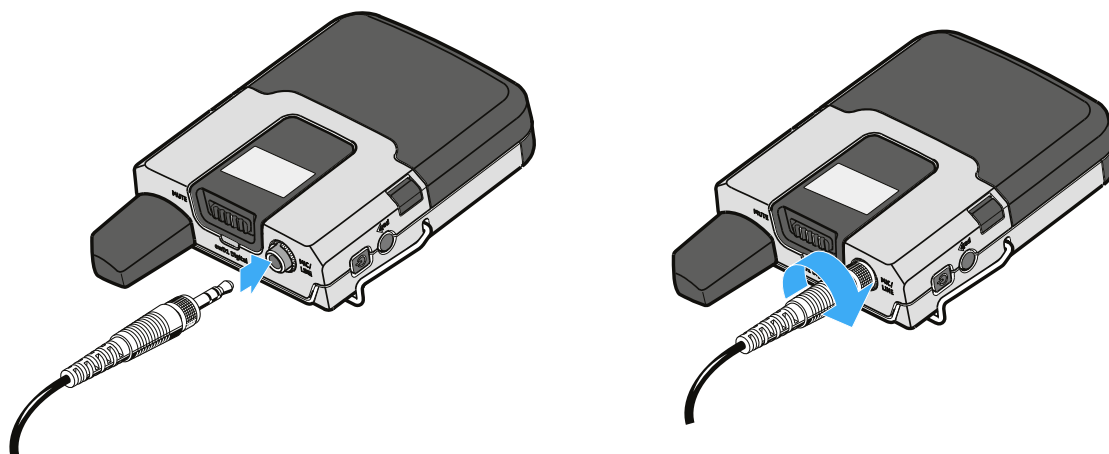
Attaching the microphone

Depending on the area of application, you can attach the MKE 1 in different ways to either clothing or the body.



To do so, use the optional MZ 1 accessory kit that offers multiple and secure attachment possibilities. The clips, holders and mounts are suitable for almost any wearing situation and ensure optimum sound quality.

Connecting the MKE 1 to the SL Bodypack DW



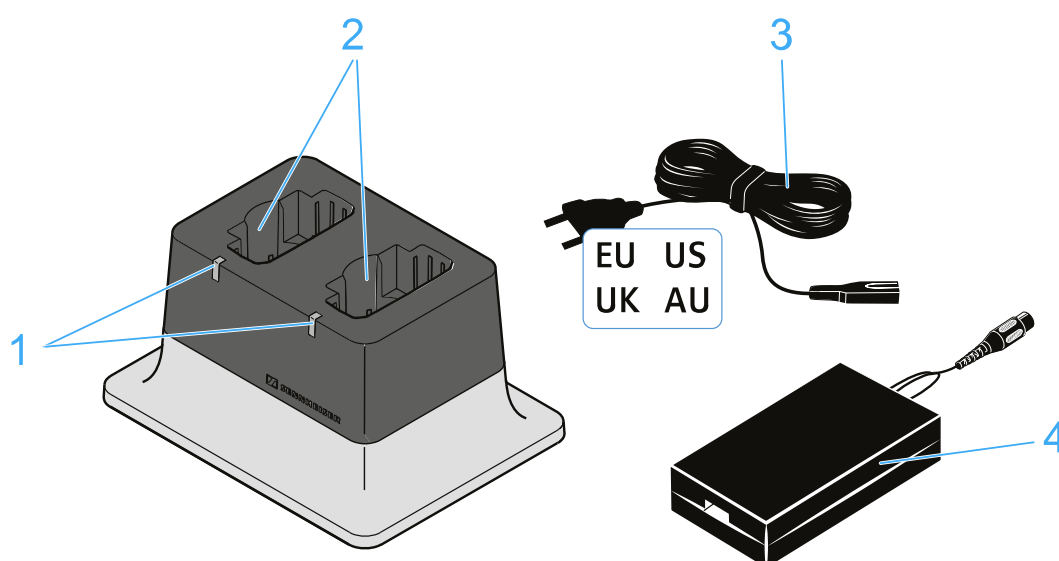
- ▷ Connect the jack plug of the MKE 1 to the **MIC/LINE** jack socket (3.5 mm) of the bodypack transmitter.
 - ▷ Lock the jack plug by screwing down the coupling ring.
- When the jack plug is not firmly locked, crackling noise can appear in the audio signal.



The CHG 2 charger

The CHG 2 charger allows you to simultaneously charge up to two transmitters of the SpeechLine Digital Wireless series. A bi-color LED at each charging slot provides information on the current charge level. The charger has universal charging slots for charging both handheld and bodypack transmitters.

Product overview

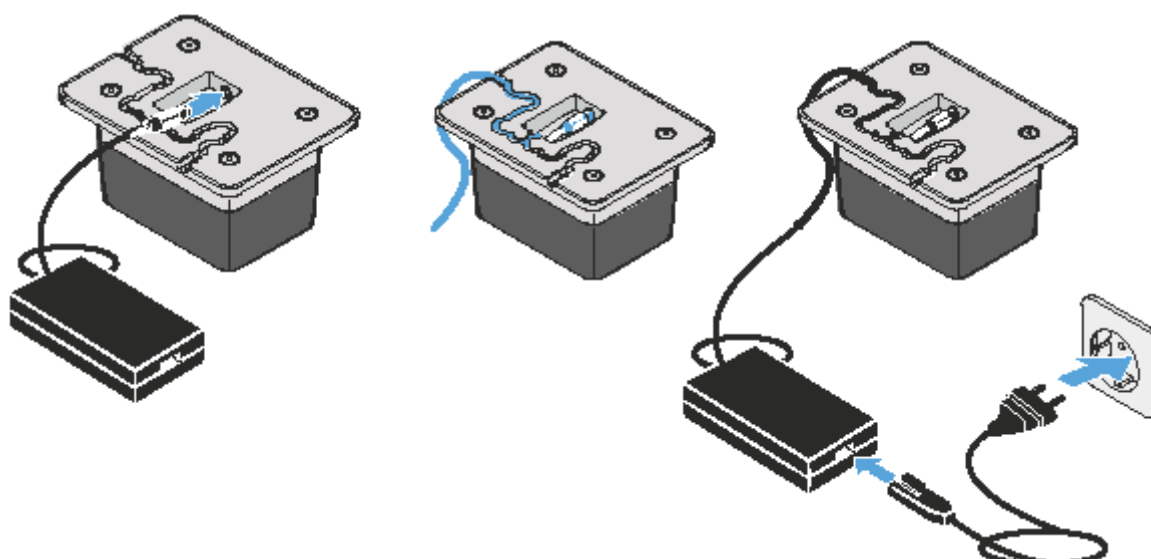


- 1** Charge level LEDs
 - lights up green: The accupack is fully charged.
 - lights up red: The accupack is being charged.
- 2** Charging slots
 - each suitable for both SL Handheld DW and SL Bodypack DW
- 3** Power cord
 - EU, US, UK or AU variant
- 4** NT 12-50CS power supply unit
 - with hollow jack plug for connection to the CHG 2 charger



Connecting the CHG 2 charger to the power supply system

To connect the CHG 2 charger to the power supply system:

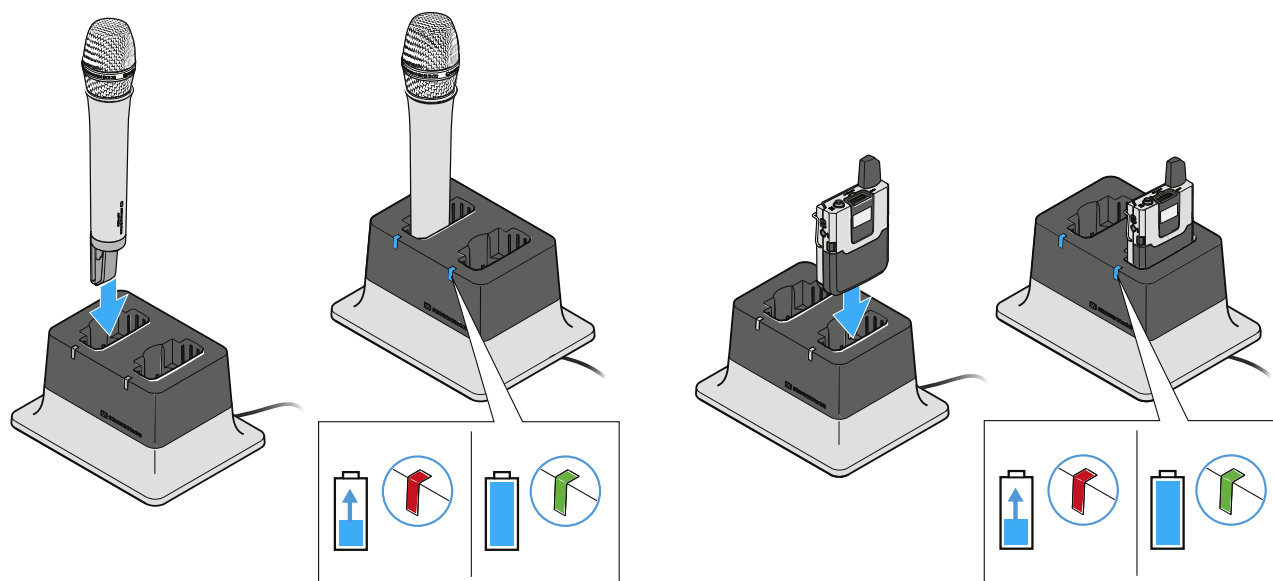


- Connect the cable end of the power supply unit to the socket at the base of the charger.
- Guide the cable through one of the cable guides at the base of the charger so that the charger is stable once in position.
- Connect one end of the power cord to the power supply unit and the other end to the wall socket.



Charging the accupack in the CHG 2 charger

To charge an accupack in the CHG 2 charger:



- Insert the transmitter with the accupack installed and with the charging contacts facing downwards into the charger.

Make sure to insert the transmitter the correct way round: The **STANDBY** button of the bodypack transmitter has to point in the direction of the charger's charge status LED. The charge status LED lights up red when the accupack is being charged. The charge status LED lights up green when the accupack is fully charged.

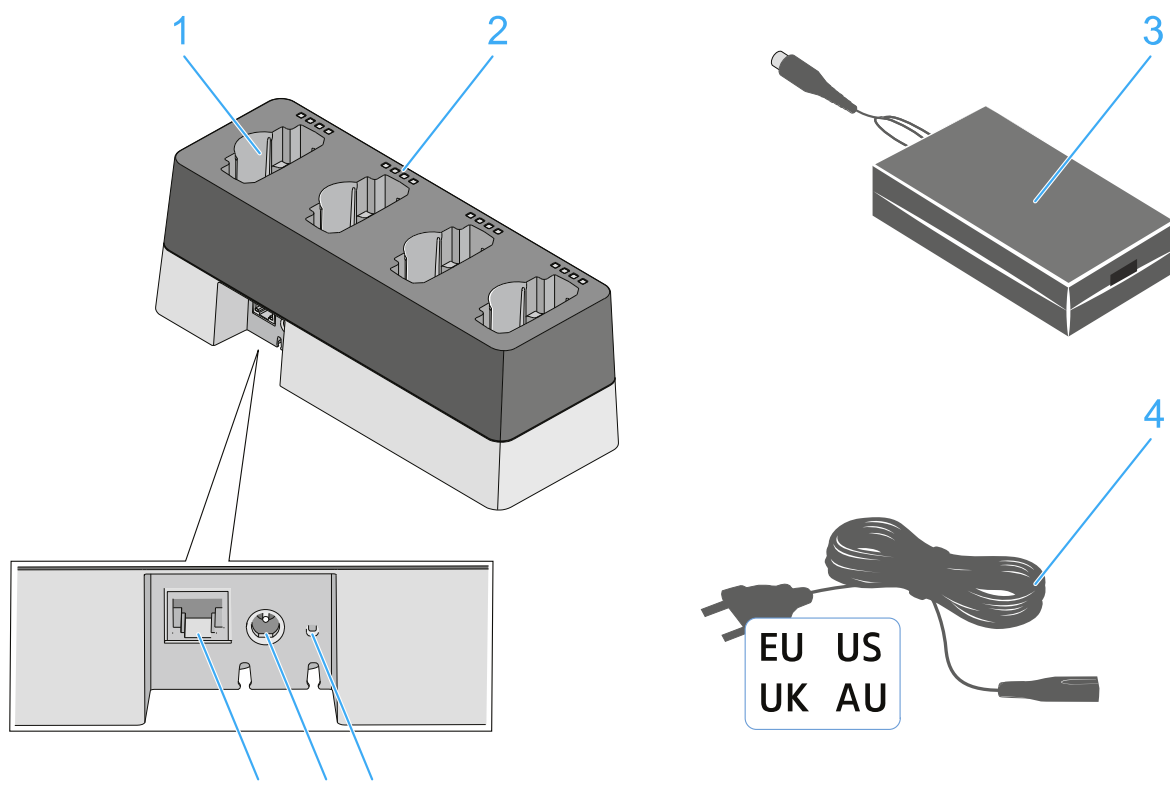


The CHG 4N charger

The CHG 4N is a network-compatible charger with four separate charging slots. These ports can be used for the SL Bodypack DW and the SL Handheld DW. The four LEDs on each charging slot indicate the current charging status. The versatile network interface is compatible with IPv4 and IPv6 for seamless integration. The Sennheiser Control Cockpit software can be used to monitor and remotely control the settings and status messages.



Product overview



1 Charging slots

- Each suitable for both SL Handheld DW and SL Bodypack DW

2 Charge level LEDs

- See „Meaning of the charging slot status LEDs“

3 Power supply unit

- With hollow jack plug for connection to the CHG 4N charger

4 Power cord

- EU, US, UK or AU variant

5 Network reset button

- See „Controlling and monitoring the CHG 4N charger over the network“

6 Input socket for power supply unit

- See „Connecting the CHG 4N charger to the power supply system“

7 Ethernet socket

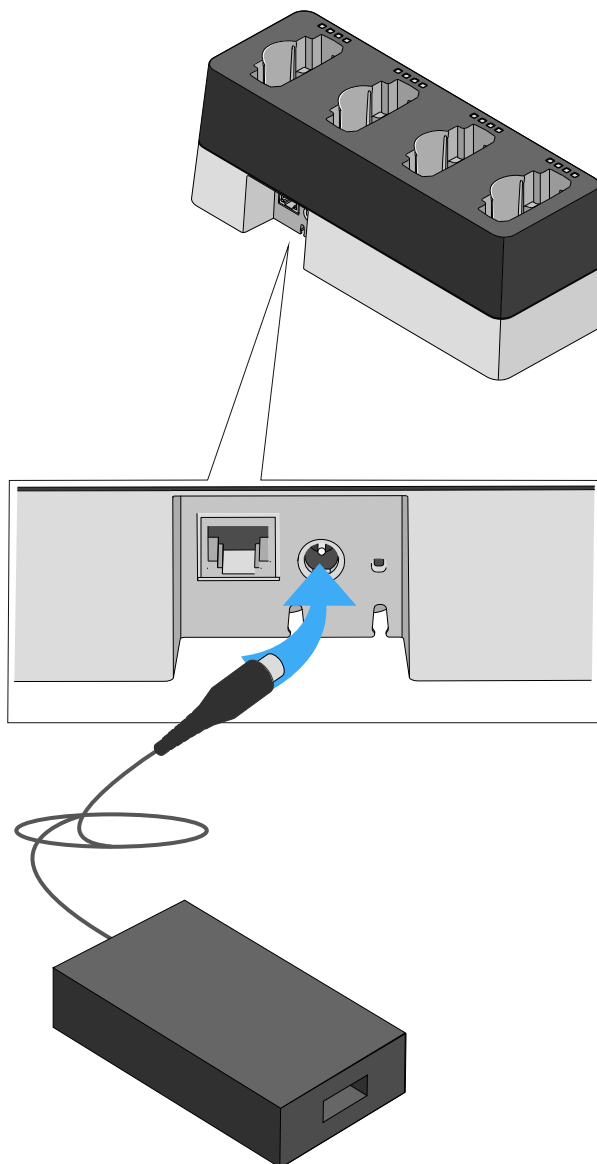
- See „Controlling and monitoring the CHG 4N charger over the network“



Connecting the CHG 4N charger to the power supply system

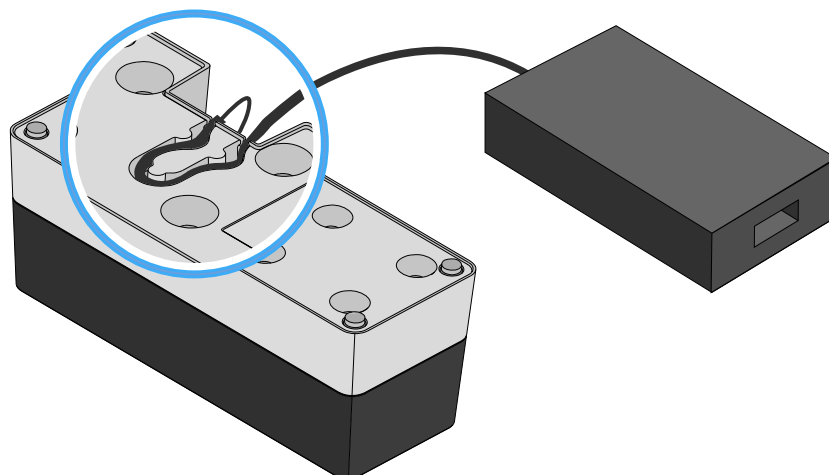
To connect the CHG 4N charger to the power supply system:

- Connect the cable end of the power supply unit to the socket at the base of the charger.

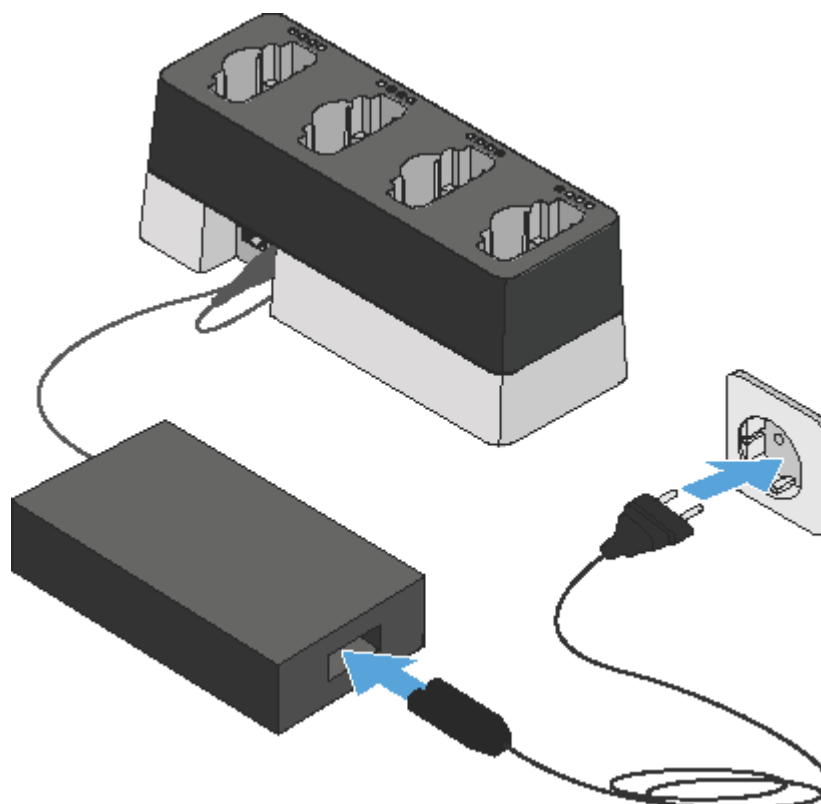




- Guide the cable through the cable guide at the base of the charger so that the charger is stable once in position.



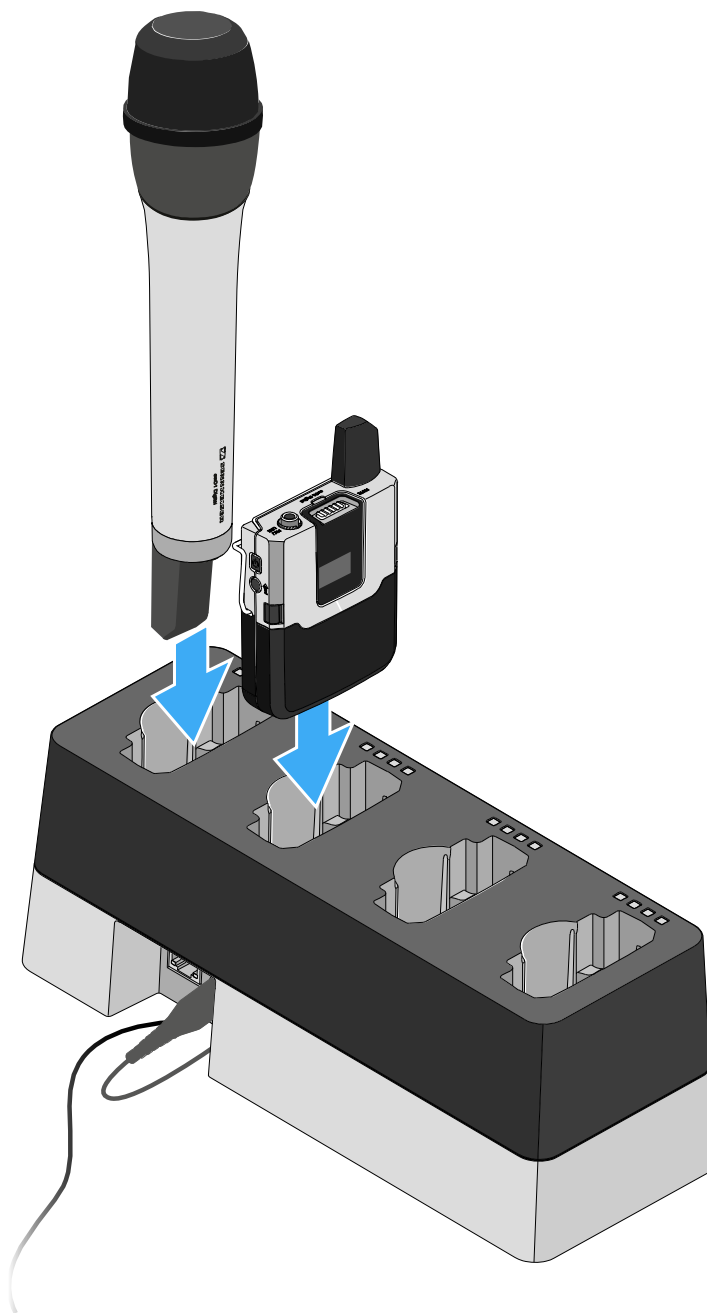
- Connect one end of the power cord to the power supply unit and the other end to the wall socket.





Charging the accupack in the CHG 4N charger

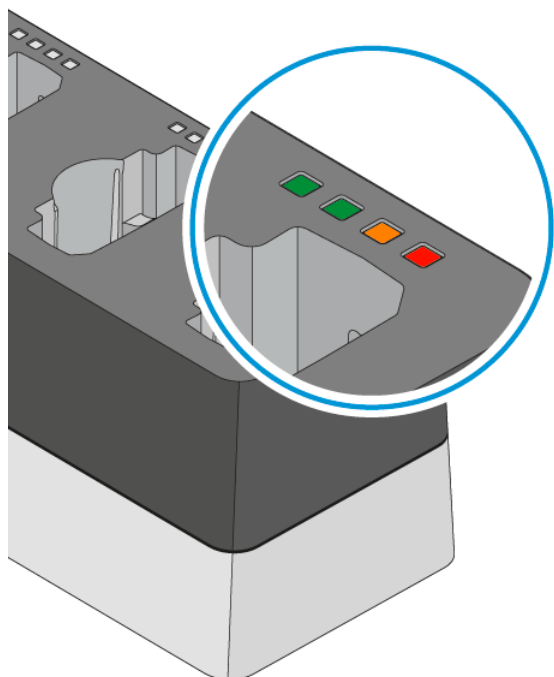
To charge an accupack in the CHG 4N charger:



- Insert the transmitter with installed accupack into one of the charger's four charging slots. Make sure the charging contacts face downward.
- Make sure to insert the transmitter the correct way round. The transmitter fits into the charger in only one direction.



The four charge level LEDs for each of the four charging slots indicate the accupack's current charge level:



○ ○ ○ ●	= 100 %
● ● ● ●	< 100 %
● ● ● ○	< 66 %
● ● ○ ○	< 33 %

Details: „Meaning of the charging slot status LEDs“

Meaning of the charging slot status LEDs

The four status LEDs on each individual charging slot display the following status information:

○ ○ ○ ●	Accupack charge level = 100 %
● ● ● ●	Accupack charge level < 100 %
● ● ● ●	Accupack charge level < 66 %
● ● ● ●	Accupack charge level < 33 %
● ● ● ●	An error has occurred. A corresponding error message is displayed in the Sennheiser Control Cockpit software.



The firmware of the **CHG 4N** is being updated.

This LED status is display only when new firmware for an **SL Handheld DW** or **SL Bodypack DW** transmitter is being loaded to the CHG 4N charger. Once the transmitter firmware has been loaded and the actual update has been performed, the LED switches to the following status.



The firmware of the **SL Handheld DW** or **SL Bodypack DW** transmitter is being updated.



The transmitter is not supported or requires a firmware update.



Controlling and monitoring the CHG 4N charger over the network

You can connect the CHG 4N charger to a network using a router or switch, which allows you to monitor and control the accupack's charge level using the **Sennheiser Control Cockpit** software and to modify the CHG 4N charger's network configuration.

For more information on controlling a system in the network using the **Sennheiser Control Cockpit** software, refer to the instruction manual of the software.

Please note that the host PC on which the **Sennheiser Control Cockpit Service** is installed must be in the same network as the devices that are to be monitored and controlled.

Connecting the CHG 4N charger to the network

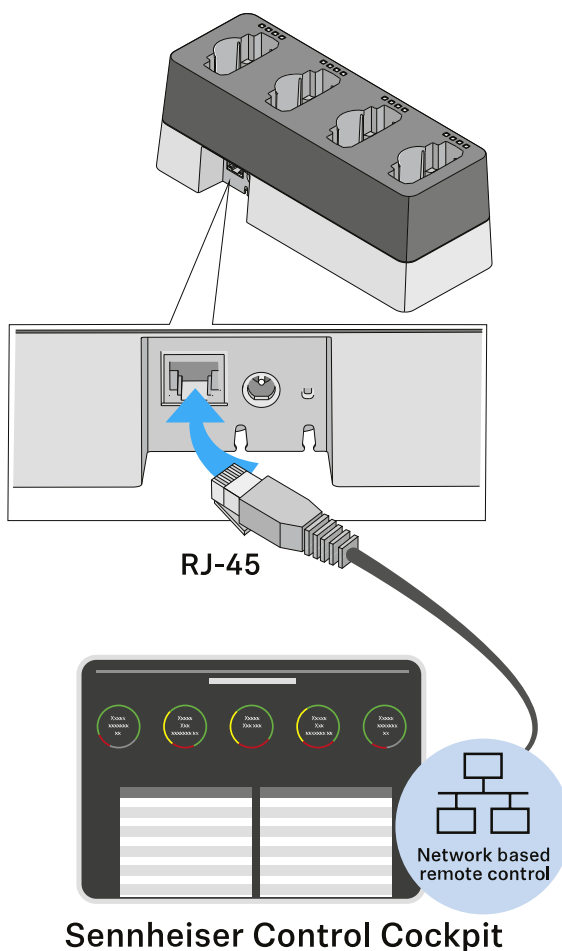
To connect the charger using the Sennheiser Control Cockpit app:

- Connect a standard network cable (at least Cat 5) to the Ethernet socket of the charger.
- Connect the other end of the network cable to the network, e.g. to a switch or router, or directly to a PC to make initial configuration easier.

The yellow LED next to the CHG 4N charger's Ethernet socket indicates the connection status:

Yellow LED:

- **On** -> The charger is connected to the network
- **Off** -> The charger is not connected to the network





Integrating the CHG 4N charger into a network with DHCP

If a DHCP server is active in the selected network, the CHG 4N charger receives an IP address automatically.

The CHG 4N charger is automatically detected in the **Sennheiser Control Cockpit** once it is connected to the network, since the CHG 4N is delivered with mDNS activated by default.

You can deactivate mDNS after you have configured the charger once. The IP address may change during operation, depending on the lease time and the DHCP server settings.

i **mDNS = multicast Domain Name System:** resolves host names to IP addresses within small networks that do not include a local name server. Used for automatic device discovery.

Integrating the CHG 4N charger into a network without DHCP using Auto IP

If there is no DHCP server in the network and you are working with automatically generated IP addresses, please observe the following information.

- Ensure that the host PC on which the **Sennheiser Control Cockpit service** is installed is configured so that the IP address is assigned automatically, rather than a static configuration.

After several minutes, all chargers in the network will receive a [link-local](#) address in the range of [169.254.x.x](#).

The CHG 4N charger is automatically detected in the **Sennheiser Control Cockpit**, since the CHG 4N is delivered with mDNS activated by default.

You can deactivate mDNS after you have configured the charger once.

i **mDNS = multicast Domain Name System:** resolves host names to IP addresses within small networks that do not include a local name server. Used for automatic device discovery.

i Some basic routers with an integrated DHCP server require more time to start. In this case, the SpeechLine devices may initially receive an automatically assigned IP. Once a DHCP server is available, however, the IP addresses assigned by the server will be used.

Integrating the CHG 4N charger into a network without DHCP using Fixed IP

If there is no DHCP server in the network and you are working with fixed IP addresses, please observe the following information.

The CHG 4N charger is delivered with automatic IP assignment configured by default. After adding it in the **Sennheiser Control Cockpit**, you can reconfigure it to Fixed IP. To do so, proceed as described above: „Integrating the CHG 4N charger into a network without DHCP using Auto IP“.



If you wish to do this, you must temporarily reconfigure the host PC on which the Sennheiser Control Cockpit is installed to automatic IP assignment.

If the CHG 4N charger is visible in the **Sennheiser Control Cockpit**, you can do the IP configuration manually:

- Change the IP settings under **Device Details -> Network** in the **Sennheiser Control Cockpit**.

Connecting a pre-configured CHG 4N charger to the Sennheiser Control Cockpit

If mDNS is activated (factory setting), the CHG 4N charger is automatically detected in the network.

If the charger has been reconfigured according to one of the procedures described above and mDNS has been deactivated, you can add the charger manually using the **Add Device** function in the **Sennheiser Control Cockpit**.

To add the charger in the **Sennheiser Control Cockpit**:

- Use the **Add Device** function in the **Sennheiser Control Cockpit** and enter the pre-configured IP address.



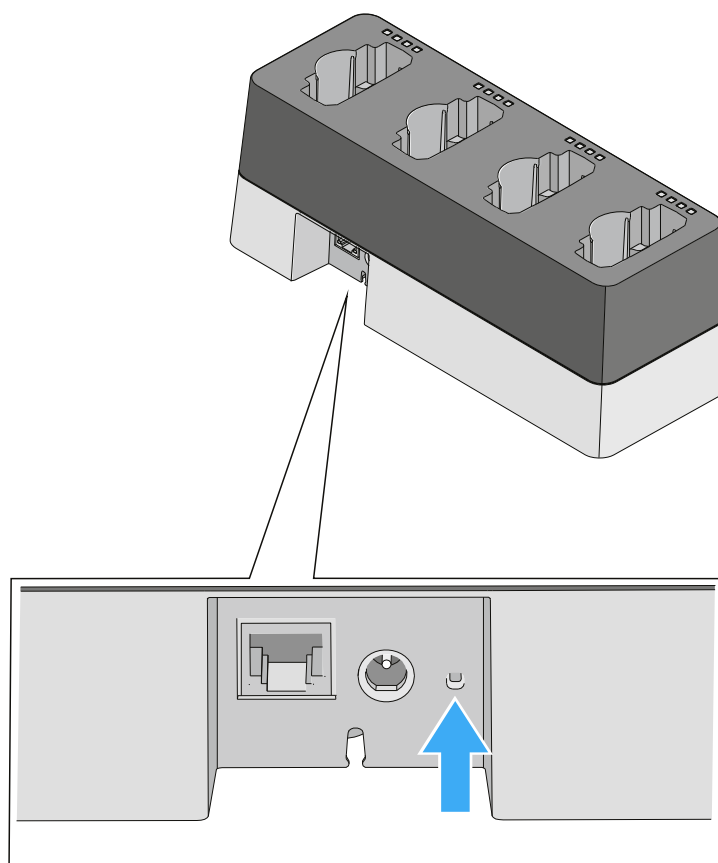
Resetting the CHG 4N charger's network settings

To reset the network settings to their factory defaults:

- Use a pointed object to press the small reset button for at least one second.

The settings will be reset once you release the reset button. The factory settings are restored:

- Automatic IP assignment
- mDNS is activated
- Name and installation location are reset, provided they were changed in the Sennheiser Control Cockpit.



Updating the firmware

The firmware of the CHG 4N charger is updated using the **Sennheiser Control Cockpit** software. You can find more information about this procedure in the software instruction manual in the Sennheiser Documentation app or in the download area of the Sennheiser website at www.sennheiser.com/download.

Sennheiser Control Cockpit instruction manual

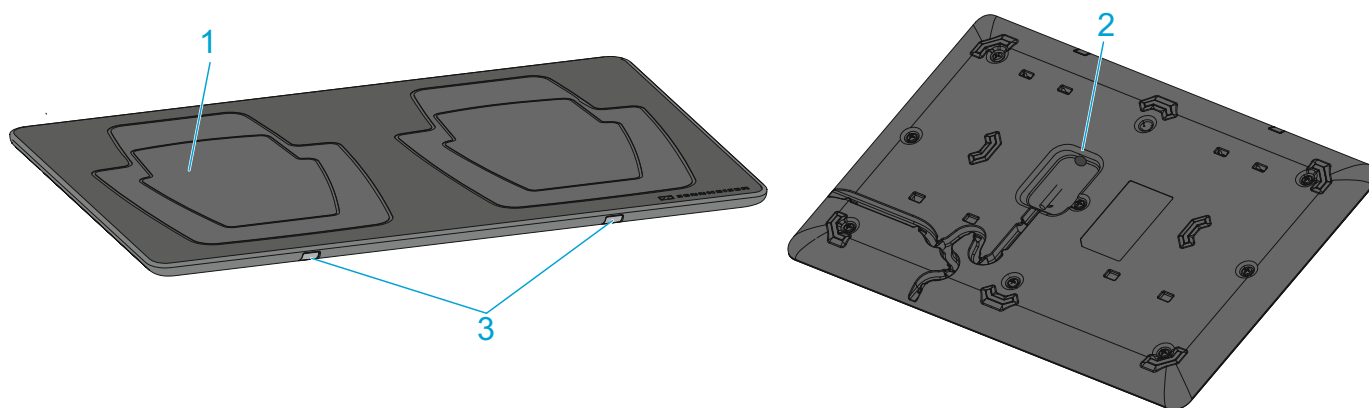
Download area for the Sennheiser website



The CHG 2W charging base

The CHG 2W is a wireless charging base that provides convenient wireless charging. The CHG 2W charging base is compatible with the SL Tablestand 133-S DW, the SL Tablestand 153-S DW and the SL Boundary 114-S DW.

Product overview

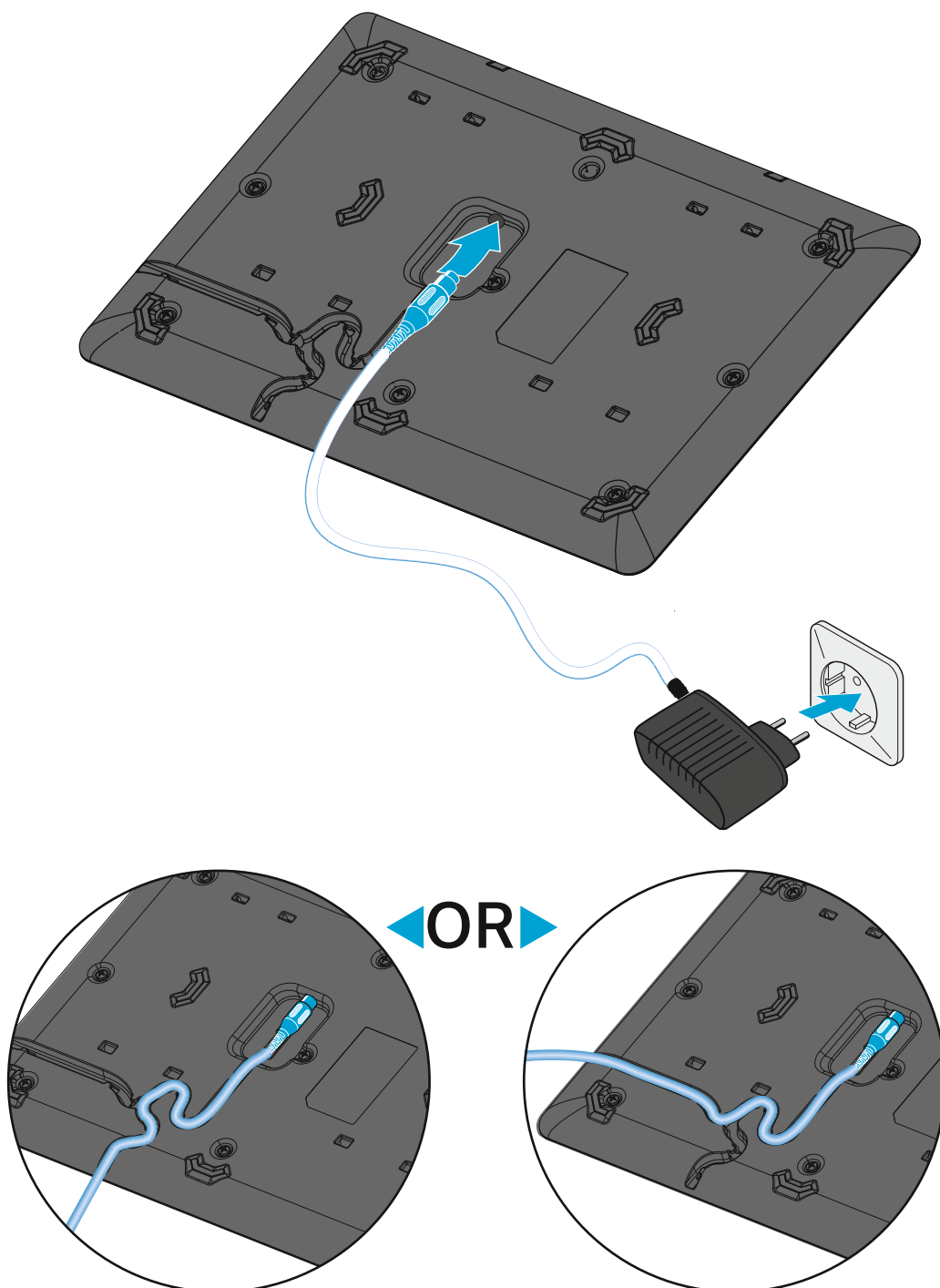


- 1** Charging surface for wireless energy transfer
 - For the SL Tablestand 133-S DW and SL Tablestand 153-S DW units
- 2** Socket for power supply unit
 - See „Connecting the CHG 2W charging base to the power supply system“
- 3** Status LEDs
 - Flashing: device is charging
 - Flashing rapidly: temperature too high
 - Flickering: unknown device on the charger
 - See „Meaning of the status LEDs on the charging surfaces“



Connecting the CHG 2W charging base to the power supply system

To connect the CHG 2W charger to the power supply system:



- ▷ Connect the cable end of the power supply unit to the socket at the base of the charger.
- ▷ Make sure you insert the plug all the way. You should feel it lock into place.
- ▷ Guide the cable through one of the two cable guides at the base of the charger so that the charger is stable once in position.
- ▷ Plug the power supply unit into a wall socket.

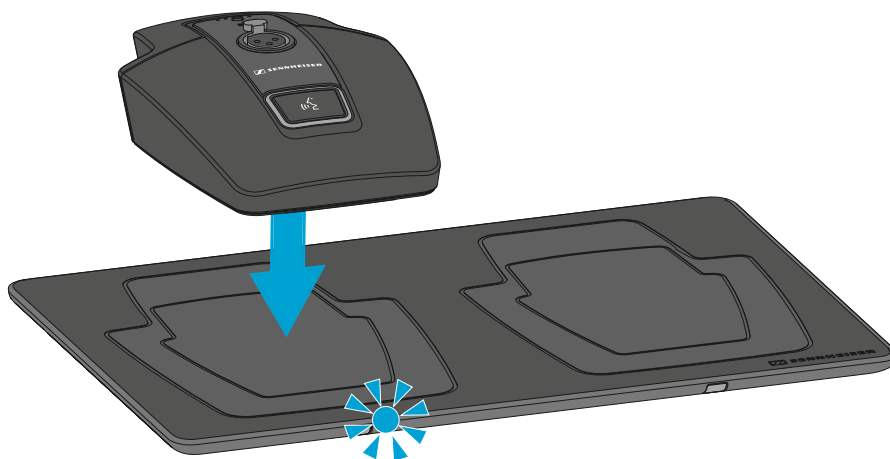


Charging a device using the CHG 2W charging base

You can use the CHG 2W charging base to charge the wireless table stands SL Tablestand 133-S DW and SL Tablestand 153-S DW as well as the wireless boundary microphone SL Boundary 114-S DW.

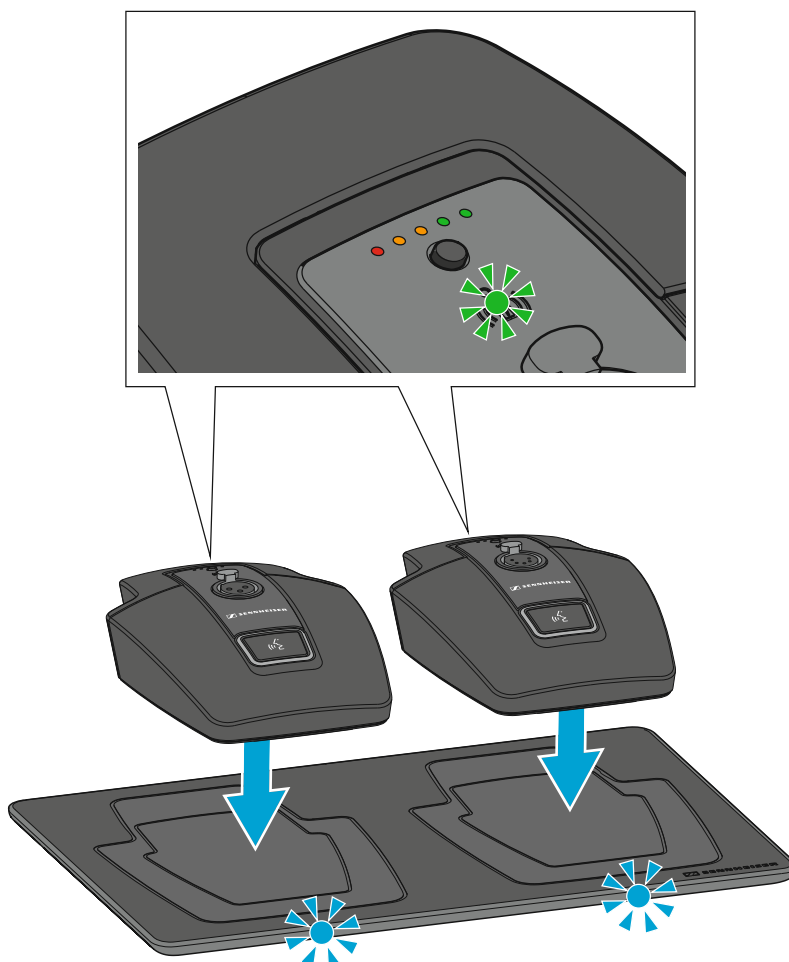
To charge a device:

- ▷ Place the device on one of the two charging surfaces.



The blue status LED for the active charging surface flashes during the charging process.

The alignment LED on the device tells you whether the device is correctly positioned.





Meaning of the status LEDs on the charging surfaces

The two blue status LEDs on the charging surfaces provide the following status information:

- Flashing normally: the device is charging
- Flashing rapidly: excess temperature warning
- Flashing/flickering very rapidly: unknown device on the charger

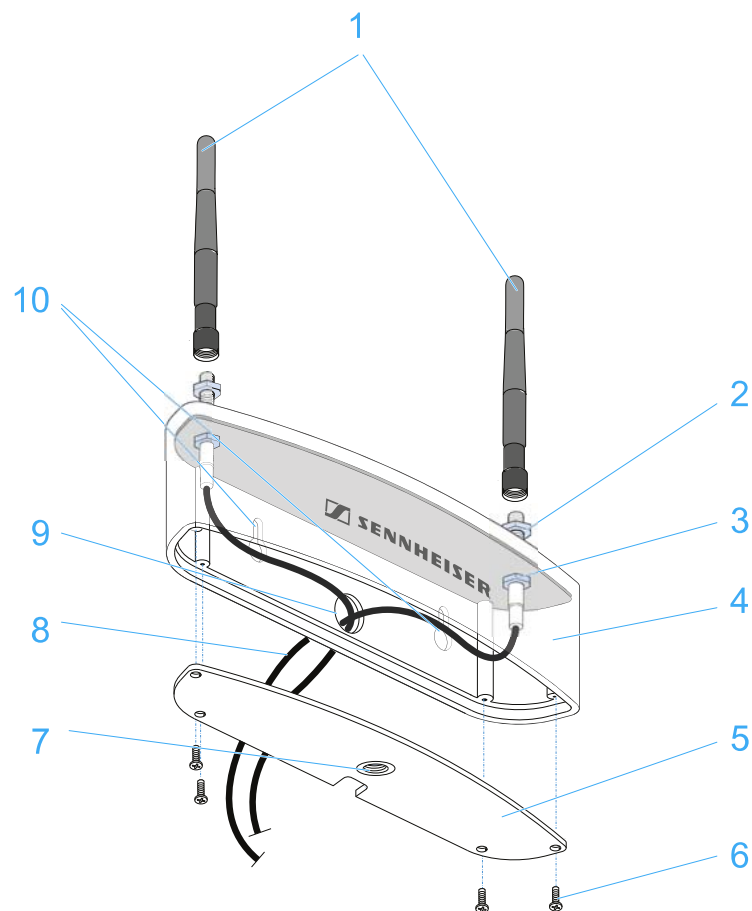


The AWM 2 antenna wall mount

With the AWM 2 antenna wall mount, the antennas can be remote mounted – optimally positioned and nearly invisible – from the receiver (e.g. when the receiver has to be installed invisibly or when the receiver position is not the best antenna position for optimum reception). The AWM 2 can be easily mounted on a microphone stand or permanently installed on a wall.

i You can find additional information on possible setups using the AWM 2 and general recommendations on antenna usage under „Recommendations on antenna mounting“.

Product overview



- 1** Rod antennas
 - for connection to the R-SMA sockets at the top of the antenna wall mount
- 2** R-SMA sockets of the antenna cables
 - Antenna inputs for connecting the rod antennas
- 3** Antenna holes
 - for screwing the R-SMA sockets of the antenna cables in place



- 4** Antenna housing
 - for antenna cable routing
- 5** Screw-down cover of the antenna housing
 - removable for mounting and antenna cable routing
- 6** 4 recessed head screws
 - for screwing down the cover
- 7** Internal thread
 - for attachment to a microphone stand
- 8** R-SMA cables
 - fitted with an R-SMA socket and an R-SMA connector, supplied complete with washer and nut
- 9** Cable hole
 - for wall mounting
- 10** Elongated mounting holes
 - for wall mounting



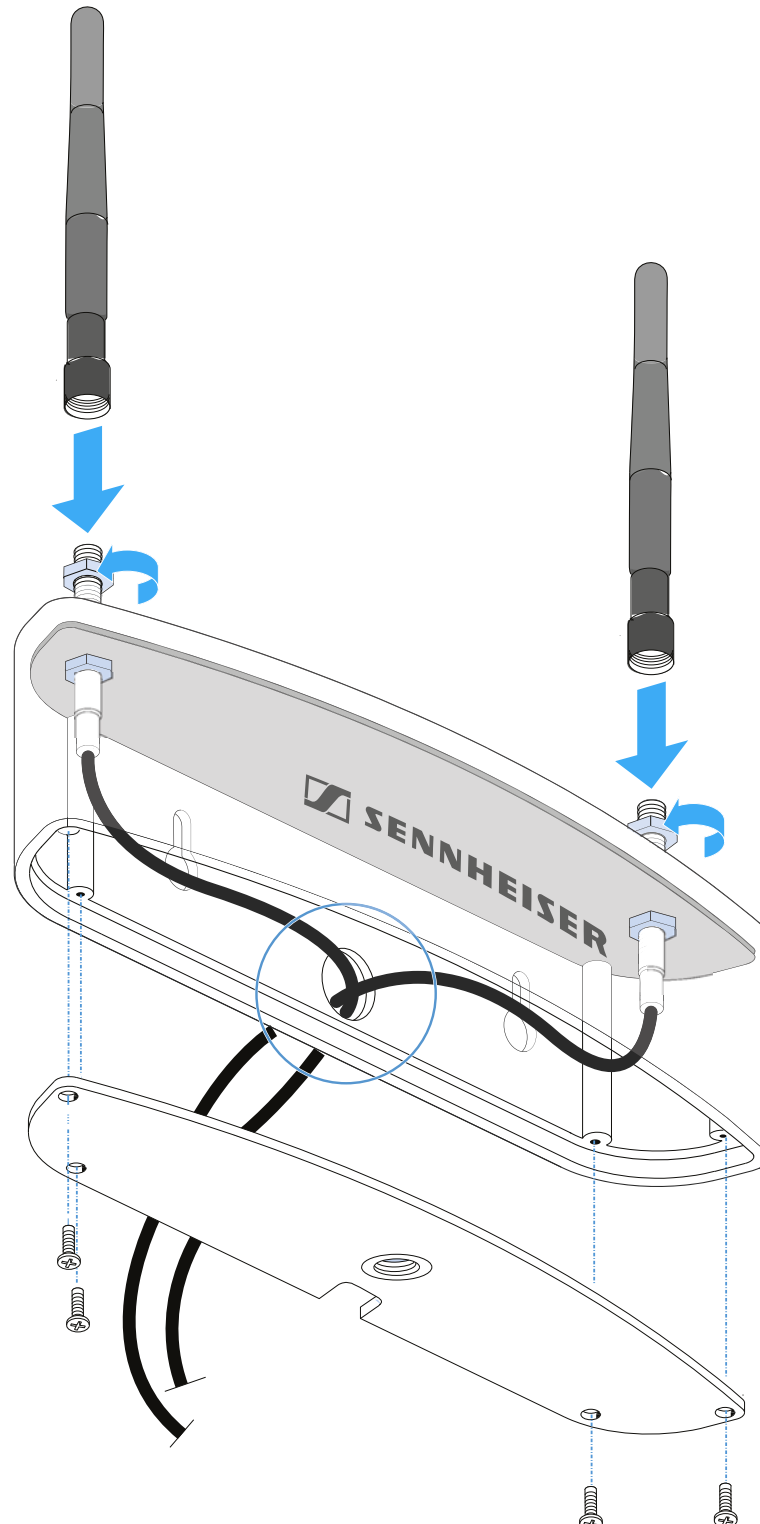
Connecting and mounting the AWM 2

Instead of the rod antennas, you can connect the optional AWM 2 antenna wall mount to the receiver. The AWM 2 is suitable for all applications where the antennas are to be positioned further away from the receiver.

- Unscrew and remove the four screws from the base of the antenna wall mount and remove the cover.

To mount the antenna wall mount to a wall

- Pass the antenna cable ends fitted with the R-SMA sockets from behind through the cable hole located at the rear of the antenna housing.





- ▷ Do not kink the antenna cables and, when running the cables, make sure not to bend them beyond a bend radius of 43 mm.
- ▷ Smaller bend radiuses can cause cracks and breaks in the cable, which may not be visible from the outside. This can result in bad reception quality.
- ▷ Screw the sockets to the antenna holes using the supplied washers and nuts.
- ▷ Screw the cover back to the antenna housing. Observe correct cable routing.
- ▷ Connect the two rod antennas of the antenna wall mount to the R-SMA sockets.
- ▷ Use the elongated mounting holes to mount the antenna wall mount to a wall or screw the antenna wall mount onto a microphone stand with a 3/8" thread.

The antenna cables can be run from the rear panel of the antenna housing directly through a wall. When wall mounting the antenna wall mount, observe a minimum distance of 160 mm between the top of the antenna wall mount and the ceiling.

- ▷ If necessary, connect extension cables to the R-SMA sockets of the antenna wall mount.
- ▷ Connect the R-SMA connectors to the R-SMA sockets of the receiver.

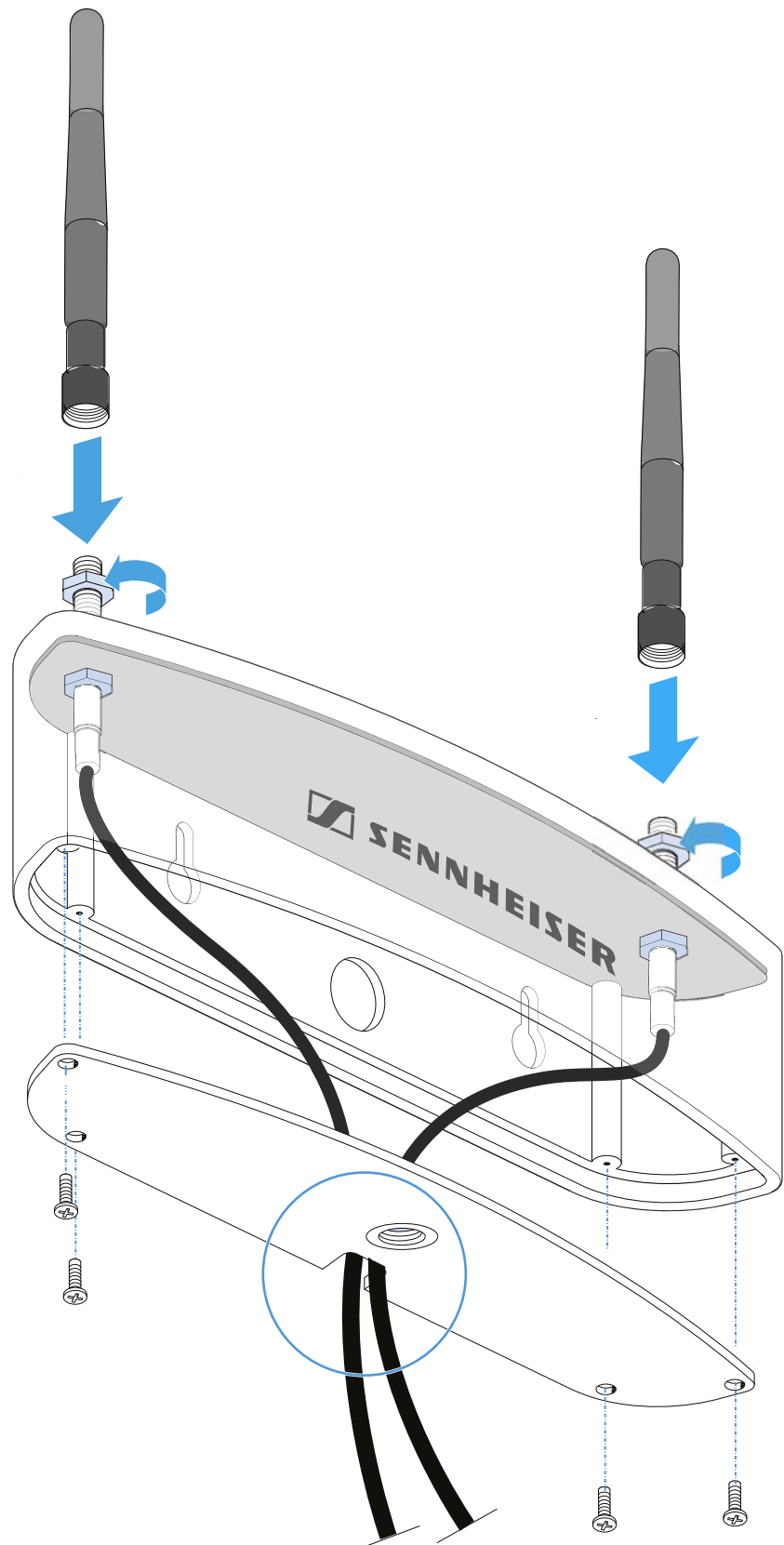


You can find additional information on possible setups using the AWM 2 and general recommendations on antenna usage under „Recommendations on antenna mounting“.



To mount the antenna wall mount to a microphone stand

- ▷ Pass the antenna cable ends fitted with the R-SMA sockets through the cable notch provided at the rear bottom edge of the antenna housing.



- ▷ Do not kink the antenna cables and, when running the cables, make sure not to bend them beyond a bend radius of 43 mm.
- ▷ Smaller bend radii can cause cracks and breaks in the cable, which



may not be visible from the outside. This can result in bad reception quality.

- ▷ Screw the sockets to the antenna holes using the supplied washers and nuts.
- ▷ Screw the cover back to the antenna housing. Observe correct cable routing.
- ▷ Connect the two rod antennas of the antenna wall mount to the R-SMA sockets.
- ▷ Use the elongated mounting holes to mount the antenna wall mount to a wall or screw the antenna wall mount onto a microphone stand with a 3/8" thread.

The antenna cables can be run from the rear panel of the antenna housing directly through a wall. When wall mounting the antenna wall mount, observe a minimum distance of 160 mm between the top of the antenna wall mount and the ceiling.

- ▷ If necessary, connect extension cables to the R-SMA sockets of the antenna wall mount.
- ▷ Connect the R-SMA connectors to the R-SMA sockets of the receiver.



You can find additional information on possible setups using the AWM 2 and general recommendations on antenna usage under „Recommendations on antenna mounting“.



The AWM 4 antenna wall mount

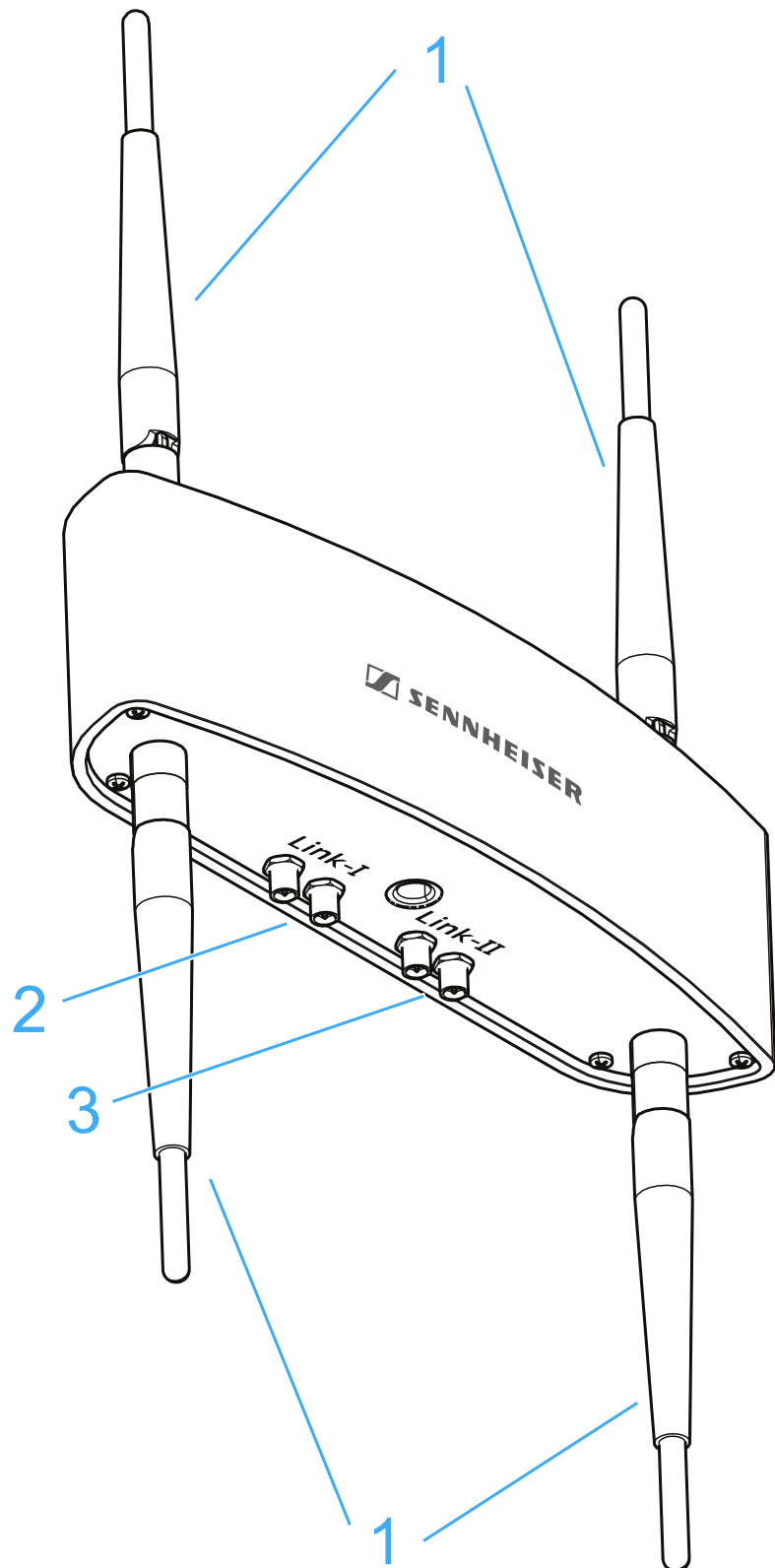
With the AWM 4 antenna wall mount, the antennas can be remote mounted – optimally positioned and nearly invisible – from the receivers (e.g. when the receivers have to be installed invisibly or when the receiver position is not the best antenna position for optimum reception). The AWM 4 can be easily mounted on a microphone stand or permanently installed on a wall.



You can find additional information on possible setups using the AWM 4 and general recommendations on antenna usage under „Recommendations on antenna mounting“.



Product overview



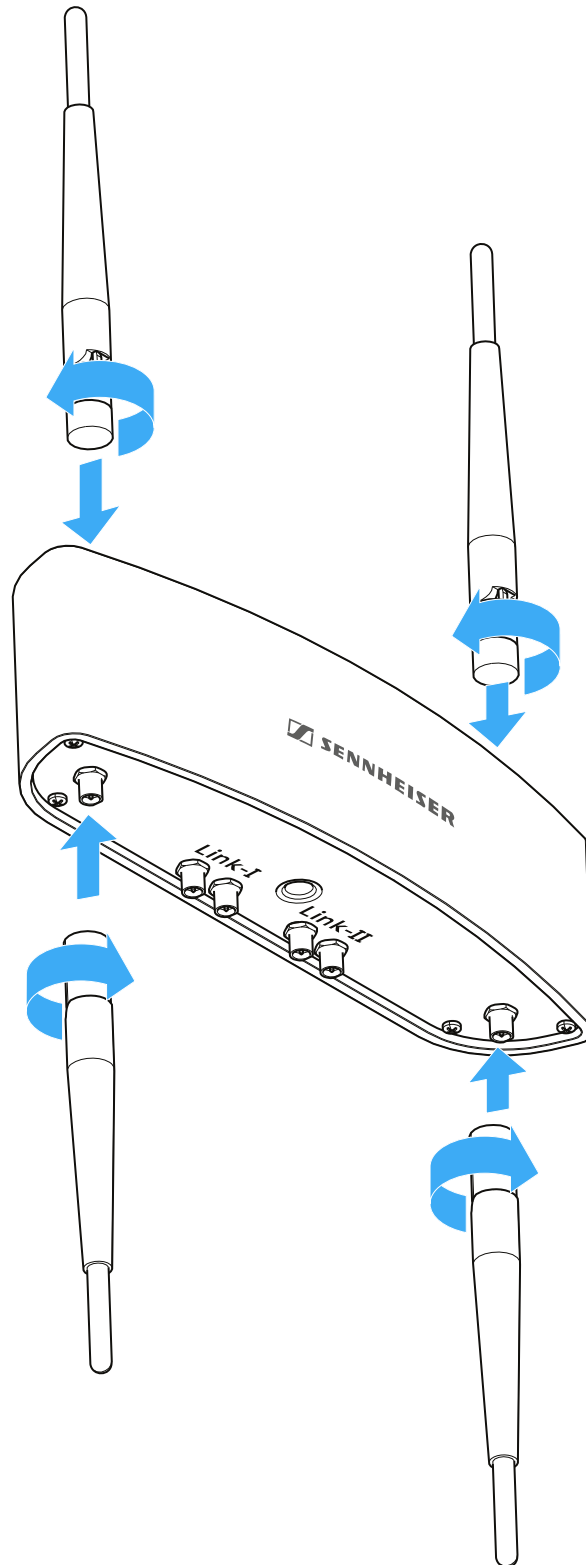
- 1** Antennas
- 2** Connections for Link I (receiver 1)
- 3** Connections for Link II (receiver 2)



Connecting and mounting the AWM 4

Attaching the antennas

- Screw the four supplied rod antennas onto the housing as shown.

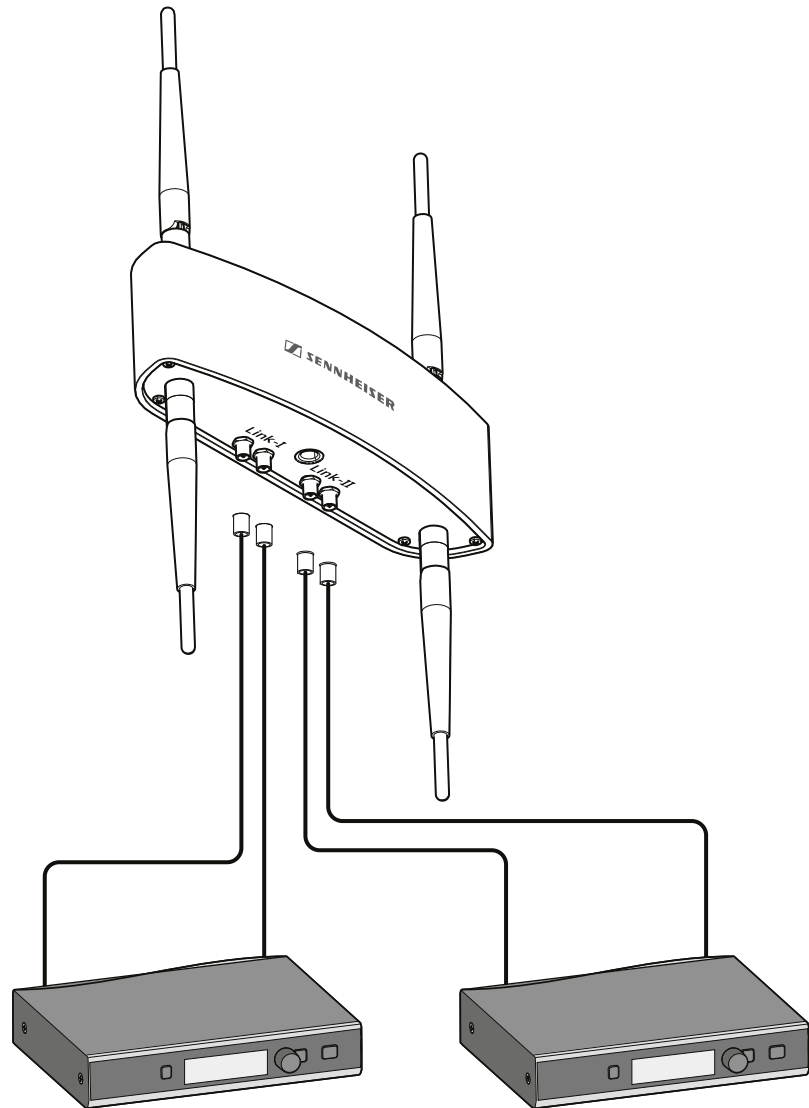




Connecting the antenna cables

You can connect two receiver directly to the AWM 4.

- Connect the two antenna outputs **ANT I** and **ANT II** of the first receiver to the connections **LINK I** of the AWM 4.
- Connect the two antenna outputs **ANT I** and **ANT II** of the second receiver to the connections **LINK II** of the **AWM 4**.



i You can find additional information on possible setups using the AWM 4 and general recommendations on antenna usage under „Recommendations on antenna mounting“.

For direct connection of the receivers to the AWM 4, we recommend using the following low-loss Sennheiser antenna cables:

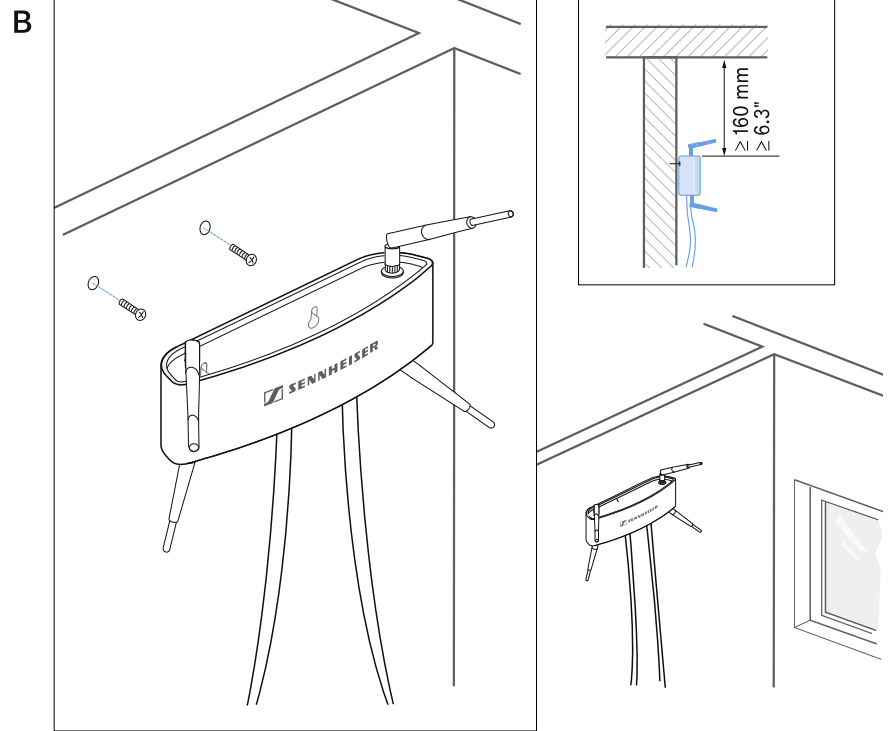
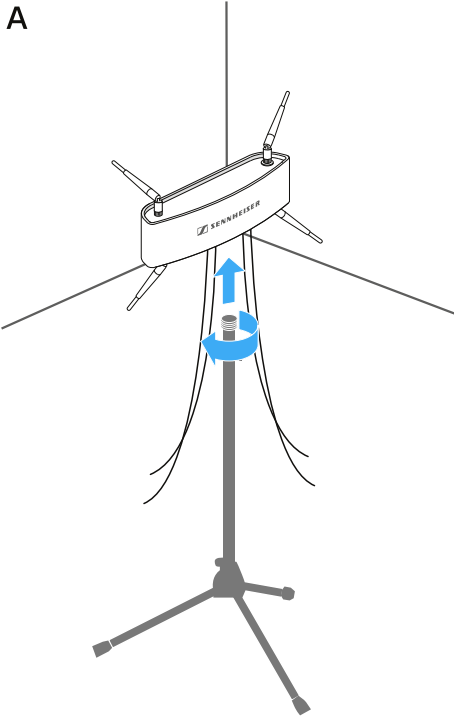
- **CL 1 PP**
- **CL 5 PP**
- **CL 10 PP**
- **CL 20 PP**

These cables can be directly connected to the SL Rack Receiver DW and the AWM 4 without the need for an adapter.



Mounting the AWM 4 on a stand or on the wall

You can either screw the AWM 4 onto a standard microphone stand or use the existing holes in the housing to mount it on the wall as shown.



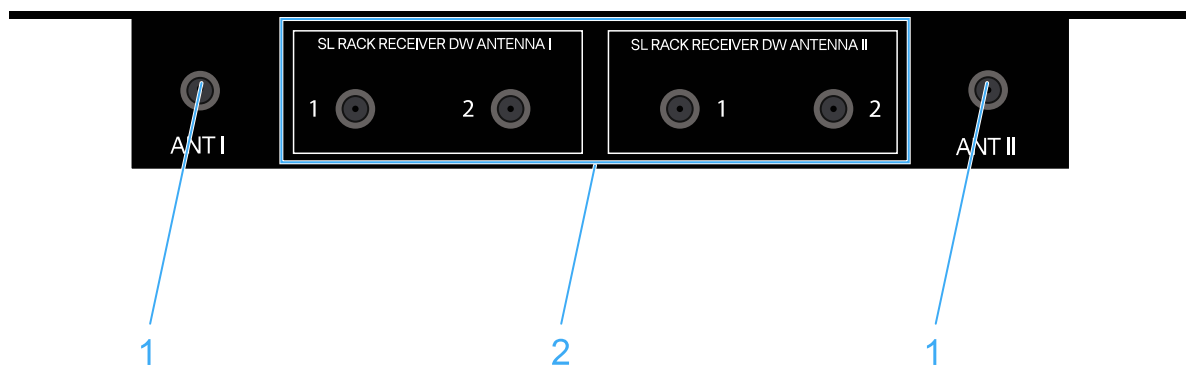


The SL PASC 2 passive antenna splitter

The SL PASC 2 is a passive antenna splitter that can operate up to 2 receivers with the remotely mounted AWM 2 antenna.

Connectors on the rear of the device

Product overview – SL PASC 2 rear panel



- 1** R-SMA output sockets [ANT I](#) and [ANT II](#)
 - for connecting the antennas (AWM 2 or AWM 4)
- 2** R-SMA input sockets [SL RACK RECEIVER DW ANTENNA I](#) and [SL RACK RECEIVER DW ANTENNA II](#)
 - for connecting the receivers



You can find more information on wiring in the chapter „Option 2: Combining multiple links to one AWM 2/AWM 4“.

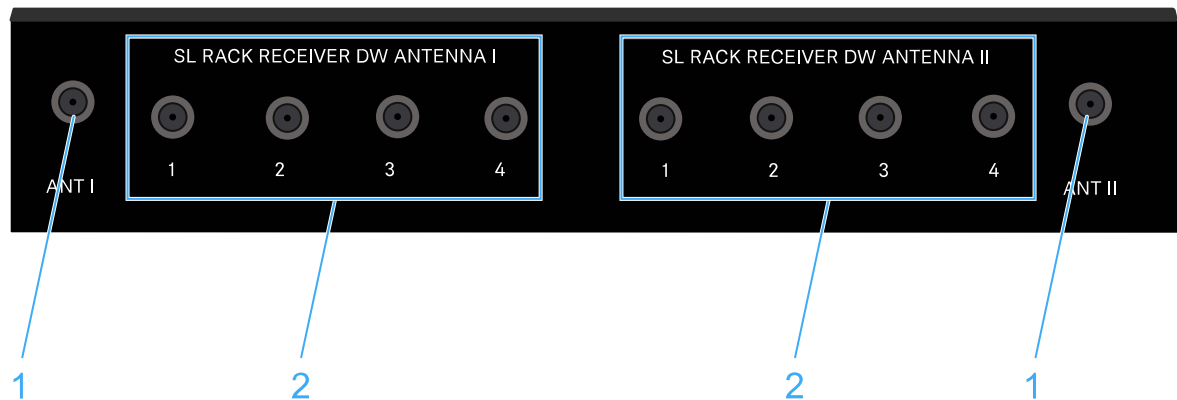


The SL PASC 4 passive antenna splitter

The SL PASC 4 is a passive antenna splitter that can operate up to 4 receivers with the remotely mounted AWM 2 or AWM 4 antenna.

Connectors on the rear of the device

Product overview – SL PASC 4 rear panel



- 1** R-SMA output sockets [ANT I](#) and [ANT II](#)
 - for connecting the antennas (AWM 2 or AWM 4)
- 2** R-SMA input sockets [SL RACK RECEIVER DW ANTENNA I](#) and [SL RACK RECEIVER DW ANTENNA II](#)
 - for connecting the receivers



You can find more information on wiring in the chapter „Option 2: Combining multiple links to one AWM 2/AWM 4“.



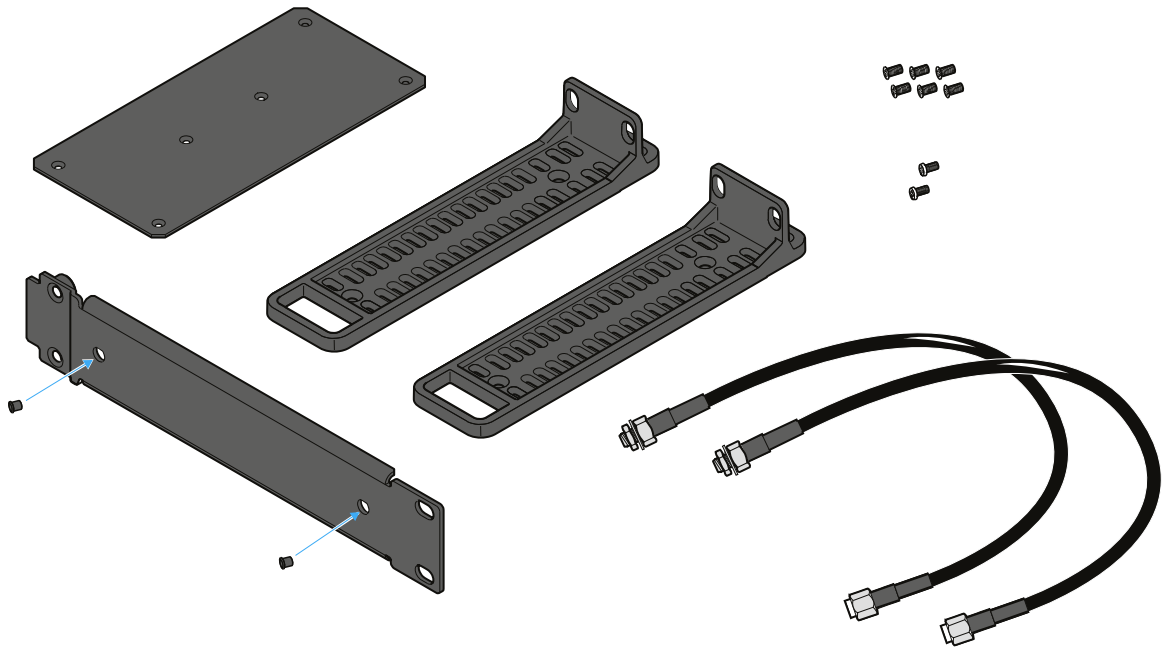
Installing antenna splitters in a rack

This chapter describes how to install a single antenna splitter or two antenna splitters side by side in a rack.

GA 4 mounting kit

To install the antenna splitter in a rack, you need the GA 4 mounting kit.

The GA 4 mounting kit consists of:

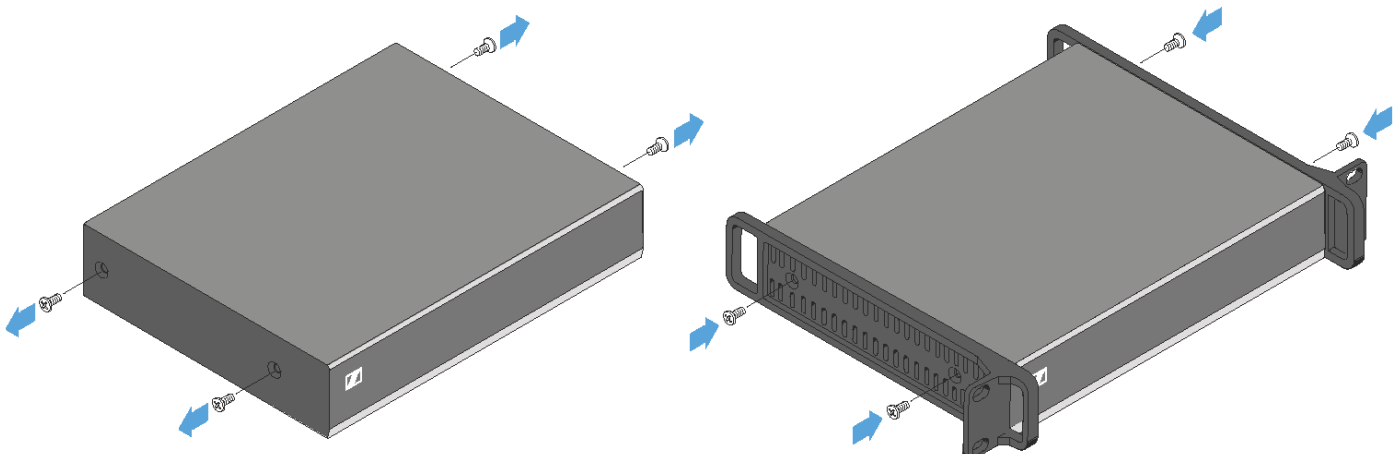


Fastening the mounting angles (to install an antenna splitter)

To fasten the mounting angles:

- Remove the two recessed head screws on each side of the antenna splitter.
- Fasten the mounting angles to the sides of the antenna splitter by tightening the previously removed recessed head screws.

Make sure that the angled ends of the mounting angles point forward.



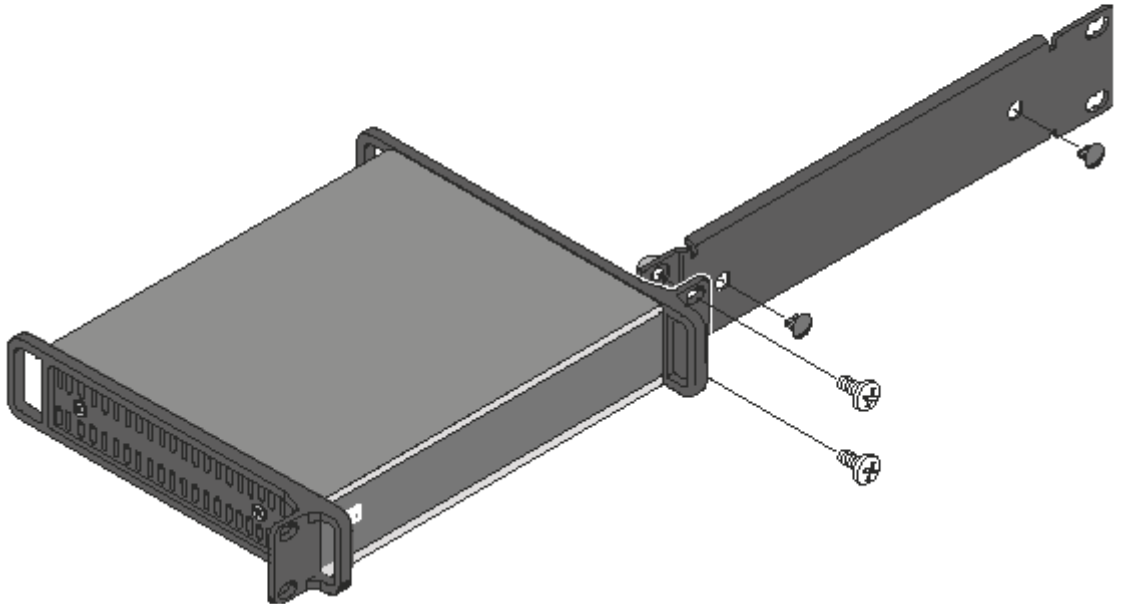


Installing the antenna splitter in a rack

To install the antenna splitter in a rack:

- Screw the front panel from the GA 4 mounting kit onto the antenna splitter's mounting angle using the two included recessed head screws as shown in the figure.

Make sure to use the correct side (the one with the round holes) of the blanking plate to secure it to the mounting angle.



- Insert the two small blanking plugs into the unused antenna holes.
- Screw the unit consisting of antenna splitter and mounting accessories into a 19" rack.



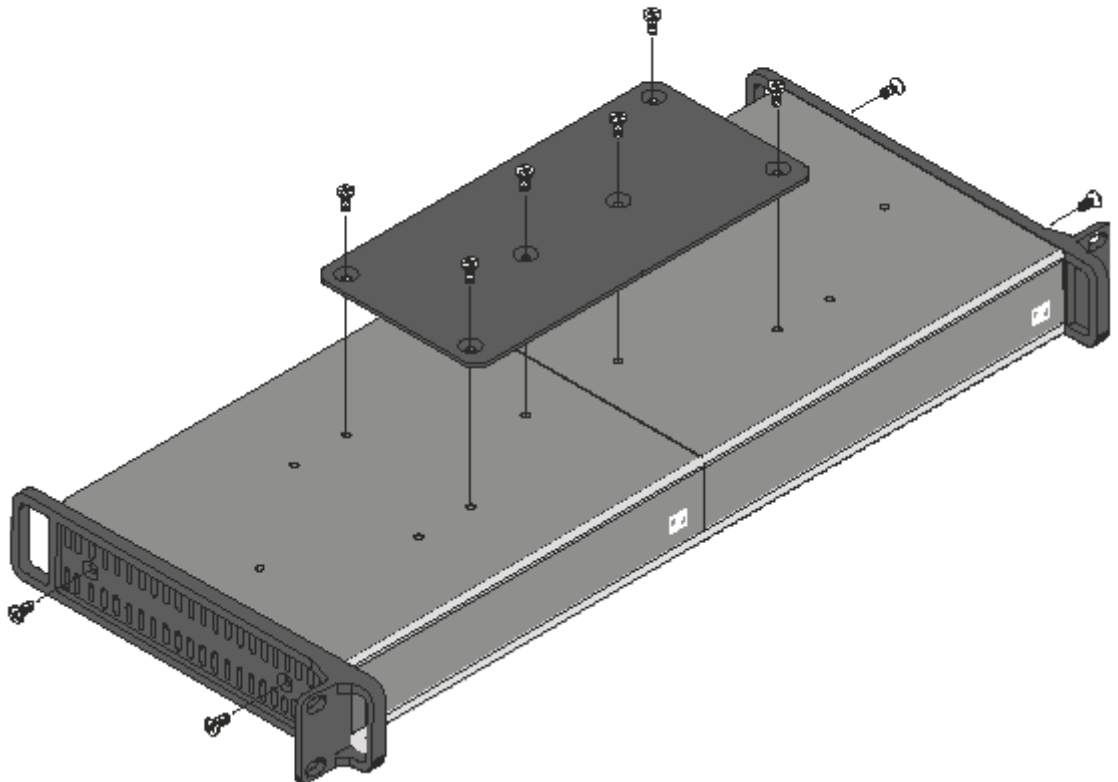
Mounting the jointing plate and fastening the mounting angles (to install two antenna splitters side by side)

To fasten the mounting angles:

- ▷ Remove the two recessed head screws on both outer-facing sides of the antenna splitters.
- ▷ Fasten the mounting angles to the outer-facing sides of the antenna splitters using the previously removed recessed head screws.

To mount the jointing plate:

- ▷ Place the two antenna splitters side by side on a flat surface with the undersides facing upward.
- ▷ Screw the two antenna splitters together using the jointing plate and the six recessed head screws, as shown in the figure.



- ▷ Screw the unit consisting of the two antenna splitters into a 19" rack.